

**IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

No. 18-1167

SIERRA CLUB

Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

PETITION FOR REVIEW OF FINAL ADMINISTRATIVE ACTION OF THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

**ADDENDUM TO PROOF OPENING BRIEF OF PETITIONER SIERRA
CLUB**

DATED: November 9, 2018

Gordon E. Sommers
Seth L. Johnson
Earthjustice
1625 Massachusetts Ave., N.W.
Suite 702
Washington, D.C. 20036-2212
(202) 667-4500
gsommers@earthjustice.org
sjohnson@earthjustice.org

Counsel for Sierra Club

TABLE OF CONTENTS TO ADDENDUM

DECLARATIONS

STATUTES

REGULATIONS

DECLARATIONS

TABLE OF CONTENTS

Declarations are provided in alphabetical order, except Mary Anne Hitt's.

Declarations of Sierra Club	Page
Huda Fashho	DEC0001
William A. Fontenot	DEC0003
Anneliese Franklin	DEC0005
Karla Land	DEC0007
Dr. Dolores V. Leonard	DEC0010
Jane Williams	DEC0015
Mary Anne Hitt	DEC0019

DECLARATION OF HUDA FASHHO

1. My name is Huda Fashho. I am the Director of Member Care for the Sierra Club, a non-profit corporation organized under the laws of the State of California. I work in Sierra Club's national office in Oakland, California. I became Manager of Member Care in 2011. In that capacity, I am responsible for planning, developing, and directing the programs, operations, and Club staff responsible for: providing information services to members, the operational and user aspects of the Club's member/donor database, the delivery of member/donor acknowledgments and membership renewals. My work also requires me to be familiar with the nature and scope of the Club's membership programs, its membership records, and the manner in which information on members can be retrieved.

2. The Sierra Club regularly maintains membership records that include the address of each member. Membership information listed in this declaration was determined by consulting this record system.

3. Sierra Club has 795,055 individual members, residing in all fifty states, the District of Columbia, Puerto Rico, and the Virgin Islands.

4. The following number of Sierra Club members live in the following counties across the country:

- Pima, AZ – 3,620 members
- Kern, CA – 811 members
- Los Angeles, CA – 27,312 members
- Ventura, CA – 3,348 members
- La Plata, CO – 450 members
- Douglas, GA – 63 members
- Rockdale, GA – 52 members
- Ada, ID – 1,177 members
- Benewah, ID – 6 members
- Will, IL – 850 members
- Marion, IN – 1,334 members
- Ascension Parish, LA – 31 members
- East Baton Rouge Parish, LA – 357 members
- St. James Parish, LA – 4 members
- St. Clair, MI – 231 members
- Washtenaw, MI – 2,225 members

- Wayne, MI – 1,993 members
- Butler, OH – 422 members
- Lucas, OH – 598 members
- Oklahoma, OK – 855 members
- Clackamas, OR – 1,564 members
- Ponce, PR – 20 members
- Knox, TN – 792 members
- El Paso, TX – 455 members
- Harris, TX – 3,244 members
- Jefferson, TX – 126 members
- Walla Walla, WA – 126 members
- Yakima, WA – 232 members
- Racine, WI – 420 members

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: November 7, 2018


Huda Fashko

DECLARATION OF WILLIAM A. FONTENOT

1. I am a member of Sierra Club, and have been actively involved with it for several decades. I joined in 1971. I have served in various leadership positions within the group over the last several decades. For the last four summers, I served as the Acting Chair of Sierra Club's Delta Chapter, and I am currently the Conservation Chair of Sierra Club's Delta Chapter and Baton Rouge Group. For decades, I have worked with Sierra Club and other environmental groups and affected communities in Louisiana to advocate on behalf of poor communities, communities of color, and industrial plant workers to demand protections from harmful pollution. At 75 years old—turning 76 in November—I am now retired, which allows me to devote a majority of my time to volunteering for Sierra Club and other environmental and community groups throughout Louisiana.

2. I have lived at my current residence in Baton Rouge, LA for more than 40 years. I have lived in Louisiana nearly my whole life.

3. People like me who live in Baton Rouge are continually exposed to pollution. I myself live and spend time working and recreating near numerous polluting facilities: I estimate there are some two dozen chemical plants, refineries, paper mills, and other industrial facilities within 15 miles of my home. For example, my home is about two miles from the Exxon Mobil Baton Rouge Refinery. The plant is about 3.5 miles long from north to south and 1.5 miles east to west. At its northern end is the Exxon Chemical America's Baton Rouge plant. Exxon Chemical Baton Rouge Plastics Plant is about 8 miles from home, and Georgia Pacific's Port Hudson Operations Paper Mill is about 10 miles from my house. There is also a Dow Chemical plant about 10 miles to the south. For too long, these facilities have polluted the air, the water, and the lands in our community and, in doing so, have put me, my wife, my children, my neighbors, facility workers, and emergency responders at serious risk of health harms, and have simultaneously compromised the health of our environment. I am aware that the air pollutants these facilities emit include carcinogens and other toxic substances, and that they can also react to form other pollutants like harmful ozone pollution.

4. The facilities near my home seek to expand and install new equipment all the time. I see the construction derricks. There are several operations going on at the Exxon Mobil and Exxon Chemical America facilities, and Dow Chemical is doing construction all the time.

5. I constantly worry about the air pollution and other serious threats from the industrial plants nearby. I worry particularly about Exxon's massive, old refinery because I live so close to it and I have to breathe the air and drink the water here, as do the many other citizens of Baton Rouge. I am very familiar with this refinery and the fact that it has been a major pollution source in Baton Rouge for decades. From my experience as an environmental advocate, I know air pollution can travel hundreds of miles, too, so I am affected by air pollutants released by industrial facilities far away, as well.

6. Knowing about the risks I face here diminishes my ability to enjoy simple things like being outside near where I live or engaging in activities I like to do. Every day when I leave my home to walk my dog, I worry about what's going on at the industrial

facilities around me, especially the Exxon Mobil Refinery. I am very concerned about what may be in the air I am breathing when I'm outside, as well as when I'm inside my home. I am aware that seniors like me are particularly vulnerable to health harms from air pollutants like ozone and fine particulate matter.

7. I regularly travel to other parts of Louisiana, where I also breathe in harmful pollution like ozone. For example, I take people on "toxic tours" to show people the industrial facilities that pollute along the Mississippi River from St. Francisville, to the north of Baton Rouge, to below New Orleans. I do these tours about 4-5 times a year, and most recently gave one a few weeks ago. I also go to New Orleans 5-6 times a year. When I go down river, as I regularly do, I travel through Ascension and St. James Parishes. Among the existing facilities along the way on my trips are Motiva Enterprises in Convent and in Norco, and Valero Refining in Norco. I am also aware of pending proposals to build new large plants, like the proposed Formosa FG LA chemical plant in St. James Parish. I have visited the areas surrounding these facilities many times, and will continue to do so in the future, among other things, to conduct toxic tours and help communities and industrial facility workers protect themselves from pollution-related risks. During these trips, I have to worry about my health because I am forced to breathe the harmful air pollution in the area, including from the nearby facilities.

8. In addition, I am concerned about the impacts harmful pollution, including air pollution, from the industrial plants near where I live and where I travel has on surface and ground water, vegetation, aquatic species, and aquatic-dependent species. I like to view the Mississippi River and know it is healthy for birds and wildlife, as well as all of us living nearby. Where I live, I have to cross the river to get a lot of places so I get to see the river at least a few times every week. Protecting this river has been a big part of my life's work. I have crossed it thousands of times by car, truck, bus, train, ferry, tug boat, airplane, and even helicopter. I have been in and on the river in every state it crosses, and also in many of the rivers, bayous, canals, wetlands, and lakes that feed it. It is a truly incredible water system, and much of my work over the past 45 years has dealt with how industrial pollution impacts it. I love living near the Mississippi River and being able to see it often. Knowing it is being polluted diminishes my enjoyment of seeing the river.

9. I support this challenge because my concerns about the harmful air pollution released by the major industrial facilities around where I live, recreate, and travel only get worse when they emit more air pollution. By weakening limits against harmful air pollution from new and expanded major industrial facilities, EPA allows for them to emit more harmful air pollution. A successful lawsuit would increase protections against ozone, fine particulate matter, and other pollution that the refineries, chemical plants, and other new and modified industrial facilities near me emit, which would benefit me and my community.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: October 30, 2018



William A. Fontenot

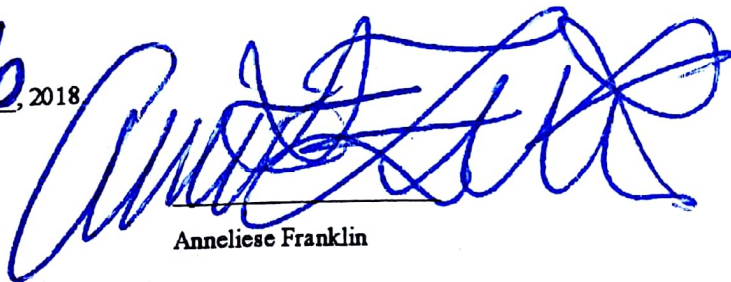
DECLARATION OF ANNELIESE FRANKLIN

1. My name is Anneliese Franklin. I am a member of the Sierra Club and have been for 7 years. I joined the Sierra Club when I was 19 years old because of its role in protecting the natural environment. Since then, I have been involved in several Sierra Club campaigns, including work to protect communities like mine from harm from industrial facilities.
2. I am 25 years old, and have lived all my life in Baton Rouge. I am currently living with my parents. I live, work, and breathe air near two major petroleum refineries. I live about 3.8 miles from the ExxonMobil Oil Corporation facility located at 4045 Scenic Highway, Baton Rouge, LA. And I live about 4.9 miles from the Placid Refining Company facility located at 1940 Highway 1 North, Port Allen, LA, which is just across the Mississippi River.
3. I am aware that these refineries emit a lot of harmful air pollution, particularly pollution that reacts in the atmosphere to form smog pollution. I am also aware that toxic pollutants from these refineries and others like them are linked to a number of negative impacts to human health and the environment. For example, benzene can cause cancer and organic chemicals can cause damage to various organs. These pollutants threaten my and my family's ability to breathe freely and safely.
4. My family and I spend a lot of time outside in our neighborhood. We go on walks at least once a week, and others in the community go every day. We also ride bikes around the neighborhood, play games outside, and spend time caring for the garden in my backyard. I spend time in my garden every day, and am growing mustard greens, tomatoes, herbs, and sweet potatoes.

5. If it weren't for the pollution, I would spend more time outside. The air pollution has negatively impacted my health, leading to worsening allergies and sinus problems. I also suffer from chronic headaches and a runny nose. My family and I avoid going outside at night because of the pollution. When the pollution is really bad, I can smell it in the air and it smells like burned rubber and rotten eggs.
6. I worry that my health is at risk because I live and work so close to ExxonMobil and Placid Refining Company and am exposed to their emissions regularly. My grandmother had breast cancer and two of my uncles have asthma. I also have friends and neighbors with asthma and cancer. Having seen how asthma and cancer can affect people, I am scared that my friends, others in my family, or I might develop asthma and cancer as a result of the emissions from the nearby refineries.
7. I support Sierra Club's lawsuit to challenge the Environmental Protection Agency's actions that weaken protections against adding harmful pollution, like the toxic chemicals that contribute to smog and soot pollution, to the air, including in areas like Baton Rouge. It is important to me that my family and community can enjoy better health, more activities outside, and a cleaner environment.

I declare under the penalty of perjury that, to the best of my knowledge, the foregoing is true and correct.

Dated: October 26, 2018.



Anneliese Franklin

DECLARATION OF KARLA LAND

1. I am a member of the Sierra Club and have been since at least 1991. I joined the Sierra Club in part because of my concerns about the bad air quality in the Houston area. When I first moved to the area, the Sierra Club helped my neighborhood group fight the construction of a toxic waste incinerator.
2. I am 71 years old and live with my husband in Channelview, Texas, which is in the Houston area. We have lived at our current home since 1990, and in Harris County since 1975. We owned and operated a motorcycle repair shop located just three blocks from our home, from approximately 1989 until August 2017, when we retired from the business.
3. I live near the Houston Ship Channel, which is home to numerous chemical manufacturing plants, refineries, and other forms of heavy industry. The Exxon Plant in Baytown is about 4 miles from my house, and I drive by that plant at least 3-4 times per week on my way to Baytown for shopping. The Lyondell Basell plant and the Equistar plant, both on Sheldon Road, are about 2 miles from my home. I drive past both of these plants several times per week since they're near my house. I am also near many other facilities including: the Dow Chemical plant, SunEdison Houston chemical plant, and the Chevron Phillips Chemical Co. complex. These plants are all are just across the Channel, in Deer Park and Pasadena.
4. There are several new industrial activities happening in my area. Lately, I noticed that Exxon has bought several houses in my neighborhood. On the Ship Channel that goes under I-10, the whole left side is filled with massive barges. The activity in the Channel has grown tremendously in the past 10 years.
5. The pollution here is terrible, and my health has suffered because of it. Many days I start coughing and coughing and cannot stop. I take preventative medication to assist me with my breathing, but my cough remains. When I am outdoors, my cough is even worse, so I try to

spend as little time outdoors as possible. The coughing causes me to have headaches on a regular basis. It also creates drainage buildup that causes me to have severe sinus infections. These infections have to be treated with antibiotics. These infections have lead to the loss of my sense of smell. Now, I can only smell acidic smells and feel the burning in my nose and throat. The coughing also causes me to become very physically weak; at times it is even difficult for me to walk. Whenever I walk outside, I feel heaviness in my chest.

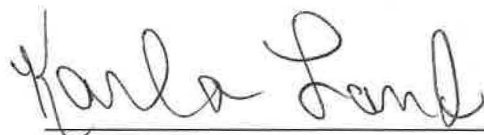
6. I have one daughter and one grandson. They live in Oklahoma City, and they very rarely visit because I encourage them not to come here due to the poor air quality. Instead, I encourage them to visit at the home in the Hill Country that we purchased in 2000; the property is a small, remote parcel of land in the Nueces Canyon, which is six and a half hours away from our home in Channelview. We try to visit this property about once every two months, where our health drastically improves. My cough disappears when I am in the Nueces Canyon, and I feel free to enjoy the outdoors. At least once a year, we like to invite family to this property, which is far from Channelview and has cleaner air.
7. We would like to spend more time at the property in the Hill Country, but we can't because of family and community obligations and because we care for several animals. Many of them live in the backyard, and I worry about their exposure to unhealthy air. I do not get to spend as much time with my pets as I would like because I have to go indoors when my coughing becomes unbearable. Some days are so bad, I run outside to feed my pets and that is all the time I spend with them for the day. Some of my pets have physical disabilities; I especially wish I could spend more time outdoors with them.
8. My husband and I are not free to enjoy our home and community the way we would like to, because of the poor air quality. We own three acres, but I can't walk from one end of the

property to the other because of my health problems. My husband keeps a garden in our backyard. I like to go look at the garden, but the outdoor air quality makes me feel so weak that when I go outside to look at it, I have a very hard time walking back to the house. Sometimes, my husband even has to physically assist me across the yard and back into the house.

9. I support Sierra Club's lawsuit challenging the Environmental Protection Agency's actions that weaken air quality protections in the Houston area. I am worried that these EPA actions will allow the amount of particulate matter in the air to increase. If EPA were to take action to better limit or even reduce the amount of particulate matter in the air, my health and well-being would improve.

I declare under the penalty of perjury that, to the best of my knowledge, the foregoing is true and correct.

Dated: October 30, 2018.



Karla Land

DECLARATION OF DR. DOLORES V. LEONARD

1. I am a member of Sierra Club, which I joined in 2005 to help with their work on environmental justice. After joining, I volunteered for Sierra Club's National Environmental Justice Committee in the Club's Detroit office, where I conducted research, edited a quarterly newsletter, and helped review permits and draft comments, among other things. I left that committee about four years ago. About three years ago as a member of the 48217 zipcode community, I wrote a proposal for air quality monitoring at the request of then MDEQ director Dan Wyant. It was accepted. As a result, the 48217 community was selected to house an air monitoring station at the New Mount Hermon Missionary Baptist Church. This has been a collaborative effort between the community and MDEQ which will be ongoing. This past summer I worked with University of Michigan student interns on several research projects that created a cumulative pollution composite reported emitted by all companies within my community for one year, reviewed possible health impacts, and compared pollution increases or decreases in my community using the Toxic Release Report. As a result of this work, I am familiar with health, environmental, and equity issues in Detroit and the nation.
2. I live in Detroit in zip code 48217 in Wayne County, Michigan. I have lived at my current residence since 1957.

3. My house is surrounded by industrial facilities that emit high amounts of pollution. Wayne County is home to oil refineries, steel mills, and other industrial facilities. I live one mile from the Marathon Detroit HOUP oil refinery. Many of these facilities are located across the street from people's homes and are also close to public schools. Just the other week, the Marathon refinery had a major flaring incident where it exceeded its emissions threshold for sulfur dioxide and had to evacuate employees, causing concern in my community.
4. I have asthma, for which I regularly use an inhaler and take medication when my symptoms worsen. I regularly check the news for ozone levels, and refrain from spending time outdoors when air quality is bad. Due to poor air quality, I rarely open the windows of my house, even though I prefer to have fresh air. When the windows were open, especially in the morning, it causes me to choke up and have difficulty breathing. I have to use a central air system, which I do not like, to help with air circulation and to manage my respiratory problems. I have a flower garden, but do not tend to it as much as I would like to because I am concerned about air pollution. My own great-grandson, who also lives here, suffers from a serious asthma condition.
5. I also frequently smell foul odors in my neighborhood, which I believe are primarily due to all of the air pollution in the area. The smell of kerosene and

rotten eggs discourages me from spending time outdoors. The odors are especially strong when driving on the I-75. The stench fills my car, even when the windows are closed, and can linger for days.

6. Zip code 48217—the most polluted zip code in Michigan—is a predominately African American community. Growing up in the Detroit area, I am well aware that communities of color and low-income communities are disproportionately harmed by the health effects of air pollution. Wayne County has the highest number of pediatric asthma cases in the state, as well as the highest population living in poverty.
7. I understand that air pollution from refineries can penetrate deep into the lungs and is linked to a range of respiratory problems, including bronchitis and asthma. Researchers have documented numerous deaths, heart attacks, asthma attacks, and other harmful effects from particulate matter pollution, including in my community. I also understand that nitrogen oxides contribute to formation of ozone, which also causes respiratory illnesses and premature deaths from heart and lung disease.
8. Because I am over the age of 65 and have asthma, I am more vulnerable to the harmful impacts of air pollution. I worry that more pollution will adversely affect my health and wellbeing, as well as my family's health and wellbeing. As a result, I support Sierra Club's lawsuit to challenge the Environmental

Protection Agency's actions that weaken protections against adding harmful pollution to the air, including in areas like Wayne County.

I declare under the penalty of perjury that, to the best of my knowledge, the foregoing is true and correct.

Dated: November 6, 2018.

A handwritten signature in black ink that reads "Dolores Leonard". The signature is written in a cursive style and is positioned above a horizontal line.

Dr. Dolores V. Leonard

DECLARATION OF JANE WILLIAMS

1. I am a member of the Sierra Club and have been for over 20 years. Currently, I serve as the Chair for the National Clean Air Team.
2. I am 59 years old, and I have lived in Antelope Valley since 1959. My 17-year-old son lives with me, and my 4-year-old granddaughter who lives in Texas occasionally visits me here. I live on a horse ranch, where I care for ten horses and one tenacious donkey.
3. Given where I live, I regularly engage in recreational and other activities in areas affected by air pollution from industrial facilities.
 - a. Within 20-30 miles of my home, there are several facilities that emit large quantities of harmful air pollutants, including plants like the boron mine and chemical manufacturing plant in Boron; cement plants, like CalPortland in Mojave and Lehigh in Tehachapi; and Edwards Air Force Base, in Edwards. Also nearby, Lancaster and Palmdale have large municipal solid waste landfills and proposed power plants, and are near other industrial facilities like boat manufacturing facilities in Adelanto.
 - b. At my home, I spend a lot of time riding the horses and taking care of them and the property. In the areas near my ranch, my son and I ride bikes, swim, hike, and do other outdoor activities. My son is a Boy Scout, and spends a lot of time outside in the surrounding areas hiking, camping, and doing community service projects. For example, he just finished his Eagle Scout Project at the Kern River Preserve where he helped do trails restoration and education projects to help bird conservation. That entailed us traveling there many times with family and the Scout troop. The Preserve is along the Pacific Flyaway and is a stop over for migrating birds.


- c. My family and I regularly go to places near industrial facilities and engage in outdoor activities. For example, there is a dry lake bed about 10 miles away that I enjoy visiting with my son about once a month to hike, bike, jog, and do other outdoor activities. Further, I enjoy visiting friends who live and work in Boron about six times a year and doing activities in the area with them, such as visiting the town's museum. I travel through Palmdale about once a week while traveling on the Route 14 freeway, which is the way from my home to Los Angeles. I visit Lancaster several times a week to visit the doctor, see the mechanic, go to the movie theater, or do other everyday or recreational activities. About 3-4 times a year, I visit Life Savers Wild Horse Rescue in Lancaster, CA, too.
- d. I regularly travel to other places in Antelope Valley, too, where I am exposed to pollution from industrial facilities. For example, at least four times a year I visit friends who live in the Ridgecrest area and we go for daylong horse rides along the western fenceline of the military base there. This is one of my favorite places to ride because there are mountain ranges on one side and the valley and desert on the other side. The views are panoramic and the scenery is wonderful, especially in the springtime when the wildflowers are out. On these trips I enjoy observing plants and wildlife including roadrunners and other birds, lizards, and snakes. I also enjoy visiting the Maturango Museum in Ridgecrest, which is just south of the base, and riding my horses in Red Rock State Park, which is between my ranch and Ridgecrest.
4. Clean air is a core value for my family and me. However, when we are at home, enjoying recreational activities, visiting friends, or doing other everyday activities in Antelope

Valley and the surrounding communities, my family and I breathe in and are exposed to harmful air pollution from industrial facilities that threatens our health and causes us harm. For example, my son goes to school right down the street from the cement kiln in Tehachapi at the campus of Cerro Coso Community College. He is there four days per week. He also attends class in Mojave two days per week (downwind of the cement plant there). While he is in those places, he breathes the air and the pollutants in it.

5. My serious concerns about the threat of severe health harms from toxic pollution prevent me from fully enjoying the time I spend riding horses, hiking, biking, observing plants and wildlife, and doing other outdoor activities. My health concerns about breathing in toxic pollution also diminish the pleasure I get from visiting with friends and spending time with my family. The toxic pollution impairs my ability to live a normal life with my family at my home and in my community and natural areas near where I live that we like to be able to visit, decreases the enjoyment I get from outdoor activities, and degrades my quality of life.
6. In addition to the general harms and risks posed by exposure to polluted air, I was born with a mitral valve prolapse, which makes me especially sensitive to particulate matter pollution. This condition requires me to evacuate the area entirely when particulate matter pollution is high.
7. I support Sierra Club's lawsuit to challenge the Environmental Protection Agency's actions that weaken protections against adding harmful pollution to the air, including in areas like Antelope Valley.

I declare under the penalty of perjury that, to the best of my knowledge, the foregoing is true and correct.

Dated: October 31st, 2018.


Jane Williams

DECLARATION OF MARY ANNE HITT

I, MARY ANNE HITT, declare under penalty of perjury that the following is true and correct.

1. I am the Senior Director of the Sierra Club's Beyond Coal Campaign, and have held this position since February 2018. I previously served as the Director of the Sierra Club's Beyond Coal Campaign from 2010 until then. I joined the Sierra Club staff in 2008, as the Deputy Director of the Beyond Coal Campaign. I was also employed by Sierra Club for a short period prior to that. Overall, I have worked doing environmental advocacy for over 20 years, in a variety of capacities, working on a range of issues, mostly on energy and water and air pollution. I have a Master's of Science degree in environmental studies from the University of Montana.
2. Through my job, I am familiar with Sierra Club's general goals, its projects, and its membership information. Sierra Club is a nonprofit, membership organization founded in 1892 to promote a clean and healthy environment for its members (including air quality), conservation of natural resources, and the enjoyment and protection of the natural environment. Since the passage of the Clean Air Act, Sierra Club has worked to strengthen and fully implement the legislation in accordance with our mission, including by engaging in public education, advocacy, and litigation for full and effective implementation of the Clean Air Act's protections. Among other things, Sierra Club has successfully opposed past attempts by EPA to weaken or waive Clean Air Act protections. For example, in 2013, Sierra Club won a court case in the D.C. Circuit Court of Appeals to close loopholes EPA had opened in "prevention of significant deterioration" ("PSD") air permitting.
3. In my roles at the Sierra Club, I am familiar with the activities of the Beyond Coal Campaign, as well as other efforts and campaigns of the Sierra Club's to, among other things, protect human health and the environment against the harmful effects of air pollution. For example, I currently oversee the Club's work in the electric sector, coordinating and providing strategic

leadership to our advocacy team. I work extensively with Sierra Club staff and members, including technical and legal experts, to advance our work. While at the Sierra Club, I have worked on numerous matters involving federal air pollution regulations and rulemakings promulgated by the U.S. Environmental Protection Agency (“EPA”) under the Clean Air Act. During the prior federal administration, I was responsible for coordinating the Beyond Coal Campaign’s advocacy on EPA rules related to coal and coal pollution.

4. Further, through my work and education, I am familiar with the Clean Air Act, as well as with the sources that contribute to harmful air pollution and with information about various types of harmful air pollution, including how it is formed and the damage it causes to human health and the environment.
5. The Beyond Coal Campaign promotes the reduction of levels of harmful air pollution by encouraging utilities and power companies nationwide to retire existing coal-fired plants and switch to cleaner energy sources. Other campaigns and efforts throughout the Club similarly address other sources of air pollution to try to improve human health and environmental wellbeing.
6. Sierra Club also works to educate our members and the public on the health and environmental impacts of air pollution and on proposed permits for major emitters of fine particulate matter (“PM_{2.5}”) and its precursors and ozone-forming pollutants, including construction permits under the PSD program for new and modified major sources located in attainment and unclassifiable areas. Among other things, we publish articles in SIERRA magazine and use a variety of social media to communicate with our members and supporters. In addition, the Club regularly educates and informs concerned members of the public by raising awareness through public statements about air pollution, proposals for construction and expansion of air pollution sources, and threats to public health and welfare from such proposals.
7. Through my work at Sierra Club, I am familiar with the PSD permitting program. I am aware that it is a key threshold when major sources of harmful air pollution are proposed for new construction or major

modifications because the proponents of the sources must obtain preconstruction PSD permits. Accordingly, as part of the Beyond Coal Campaign and other clean air advocacy, Sierra Club has been extensively involved in PSD permitting issues. For example, when the Beyond Coal Campaign began, we were fighting against new construction of coal-fired plants, which often involved PSD permitting. Over time, we have shifted to focusing on retirement of existing coal-fired plants, which can involve major modifications that also implicate PSD permitting.

8. Sierra Club tracks, researches, comments on, and, if necessary, challenges permits for construction and expansion of coal-fired or coal-based power plants and other industrial sources, like natural gas-fired facilities and petrochemical complexes, that would generate increased air pollution, including fine particulate matter and ozone. The Club plans to continue regularly commenting on and, where appropriate, challenging these types of PSD permits for the foreseeable future, including to prevent violations of the national ambient air quality standards (“NAAQS”) and PSD increments.
9. From my work and publicly available information, I am familiar with the NAAQS for PM_{2.5} and ozone and with communities’ air quality “designations” under those NAAQS. The most recent PM_{2.5} NAAQS consists of two standards: one expressed as an annual average with a level of 12.0 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), and the other expressed as a 24-hour average with a level of 35 $\mu\text{g}/\text{m}^3$. 40 C.F.R. § 50.18(a). The most recent ozone NAAQS is expressed as an 8-hour average with a level of 0.070 parts per million, which is the same as 70 parts per billion (“ppb”). *Id.* § 50.19(a).
10. PM_{2.5} pollution seriously harms human health and wellbeing in a variety of ways, ranging from impairment of breathing and difficulty engaging in outdoor activities, work, and school, to aggravated asthma, cardiovascular disease, lung failure, lung cancer, and premature death. 78 Fed. Reg. 3086, 3103/2-3 (Jan. 15, 2013). Children, older adults, people with lung and heart disease, and people with lower socioeconomic status are particularly vulnerable to PM_{2.5} pollution’s harmful effects. *Id.* at 3104/1. PM_{2.5} can also harm materials, plants, wildlife, and natural resources. *Id.* at 3203/1-04/1. Further, PM_{2.5} is a major cause of haze that impairs visibility and makes it

more difficult for people to enjoy scenic vistas in natural areas and to enjoy the skyline in urban areas. *Id.* at 3186/2-3; EPA, Health and Environmental Effects of Particulate Matter (PM), <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm> (last updated June 20, 2018). PM_{2.5} pollution is both emitted directly from industrial and other sources and created through chemical reactions of precursor pollutants in the atmosphere, like sulfur dioxide and oxides of nitrogen (“NO_x”). EPA, Particulate Matter (PM) Basics, <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics> (last updated Sept. 10, 2018).

11. Ozone impairs human breathing and damages the airways, aggravating existing lung diseases—such as asthma or emphysema—and causing others, such as chronic obstructive pulmonary disease (“COPD”), and exposure to it may be fatal. EPA, Health Effects of Ozone Pollution, <https://www.epa.gov/ozone-pollution/health-effects-ozone-pollution> (last updated Oct. 10, 2018). Affected people often must refrain from ordinary activities, like going to school or work, or engaging in outdoor recreation. *Id.* Though healthy adults experience these harms, others are at greater risk: people with lung diseases like asthma, children, the elderly, and people who are active outdoors. *Id.* Ozone also harms plants, which harms entire ecosystems. EPA, Ecosystem Effects of Ozone Pollution, <https://www.epa.gov/ozone-pollution/ecosystem-effects-ozone-pollution> (last updated Feb. 27, 2017).
12. Ozone forms in the atmosphere from the reaction of “precursor” pollutants—volatile organic compounds (“VOCs”) and NO_x—in sunlight. 80 Fed. Reg. 65,292, 65,299/3 (Oct. 26, 2015). As well as contributing to ozone formation, VOCs include extremely harmful and dangerous hazardous air pollutants, like benzene, formaldehyde, and toluene. *See* 40 C.F.R. § 51.100(s) (defining VOC as “any compound of carbon, excluding [certain compounds], which participates in atmospheric photochemical reactions”); EPA, Technical Overview of Volatile Organic Compounds, <http://www.epa.gov/indoor-air-quality-iaq/technical-overview-volatile-organic-compounds> (last updated Apr. 12, 2017) (discussing benzene,

formaldehyde, and toluene as examples of VOCs); 42 U.S.C. § 7412(b)(1) (listing all three compounds as hazardous air pollutants).

13. I am aware that EPA took action in April 2018 to authorize major sources to receive PSD permits without demonstrating that they will not cause or contribute to a violation of the NAAQS or PSD increments, if they simply provide modeling that purports to show that their impact will be below a certain “significant impact level” (“SIL”). EPA, *Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program* (Apr. 17, 2018) (“SILs Memo”). For all areas, the SILs EPA developed for PM_{2.5} for comparison against the PM_{2.5} NAAQS are 0.2 µg/m³ as an annual average, and 1.2 µg/m³ as a 24-hour average. SILs Memo at 15 tbl.1. The SILs for comparison with the PM_{2.5} increments in most areas (Class II) are the same. *Id.* at 17 tbl.2. In Class I areas, the SILs for comparison with the PM_{2.5} increments are 0.05 µg/m³ as an annual average, and 0.27 µg/m³ as a 24-hour average. *Id.* As there is no ozone increment, the sole SIL for ozone is for comparison with the NAAQS; it is 1 ppb. *Id.* at 15 tbl.1. The SILs Memo allows sources not to provide a cumulative impact analysis and allows them to ignore modeled violations of NAAQS and increments. *Id.* at 17-18. As further explained below, the SILs Memo endangers the health and welfare of Sierra Club members, impairs the Club’s ability to provide effective comment and advocacy on proposed PSD permits, and deprives the Club and its members of vital information about the potential air quality impact of new major pollution sources.
14. The declarations submitted by Sierra Club in this case show that Sierra Club members live, work, and engage in outdoor activities in communities that are subject to PSD permitting by virtue of their designation as attainment or unclassifiable under PM_{2.5} and ozone NAAQS. *Compare* Declarations, with 40 C.F.R. pt.81, subpt.C (providing air quality designations for all counties in United States). Some of these areas have PM_{2.5} and ozone levels that are already close to or actually violate the relevant NAAQS, as shown by EPA’s most recent (2017) “design value” metric of air quality—the metric used for judging compliance with or violation of NAAQS. *See* EPA, Air Quality Design Values, <https://www.epa.gov/air-trends/air-quality-design-values>

(last updated Aug. 9, 2018) (providing links to spreadsheets that detail design values for counties throughout United States).

15. The declarations show that Sierra Club members live, work, and engage in everyday activities in areas designated attainment for ozone or PM_{2.5}, but that have current design values that actually exceed the relevant NAAQS. Such “attainment” areas include, for ozone, Clackamas County, OR (2017 design value of 72 ppb); El Paso County, TX (2017 design value of 71 ppb); and Racine County, WI (2017 design value of 74 ppb). *Compare* 40 C.F.R. §§ 81.338, .344, .350, *with* Ozone Design Values, 2017, tbl.4 (County Status), https://www.epa.gov/sites/production/files/2018-07/ozone_designvalues_20152017_final_07_24_18.xlsx. For PM_{2.5}, such “attainment” areas include Ventura County, CA (2017 design value of 43 µg/m³ for the 24-hour PM_{2.5} NAAQS); Benewah County, ID (2017 design value of 39 µg/m³ for the 24-hour PM_{2.5} NAAQS); Ponce, PR (2017 design value of 72 µg/m³ for the 24-hour PM_{2.5} NAAQS); and Yakima County, WA (2017 design value of 41 µg/m³ for the 24-hour PM_{2.5} NAAQS). *Compare* 40 C.F.R. §§ 81.305, .313, .348, .355, *with* PM_{2.5} Design Values, 2017, tbl.4 (PM_{2.5} County-level Summary for Annual and 24-hour Design Values, 2015-2017), https://www.epa.gov/sites/production/files/2018-07/pm25_designvalues_20152017_final_07_24_18.xlsx. Despite their violations of the NAAQS, for purposes of preconstruction air permitting, these areas are subject to PSD permitting, not the distinct air permitting rules that apply in areas designated nonattainment. EPA virtually never formally redesignates areas like these to nonattainment, meaning that PSD permitting continues to apply in them. The SILs Memo allows new or modified major pollution sources that are projected to worsen the existing NAAQS violations to receive PSD permits. In fact, the SILs Memo allows an unlimited number of such sources to receive PSD permits, allowing for unlimited such worsening.
16. The declarations also show that Sierra Club members live, work, and engage in ordinary activities in areas designated attainment for ozone or PM_{2.5} that have current design values that are close to exceeding the relevant NAAQS. Such areas include, for ozone, Pima County, AZ (2017 design value of 69

ppb); La Plata County, CO (2017 design value of 69 ppb); Douglas County, GA (2017 design value of 69 ppb); Rockdale County, GA (2017 design value of 69 ppb); Ada County, ID (2017 design value of 70 ppb); Marion County, IN (2017 design value of 70 ppb); Ascension Parish, LA (2017 design value of 70 ppb); East Baton Rouge Parish, LA (2017 design value of 67 ppb); Oklahoma County, OK (2017 design value of 69 ppb); and Jefferson County, TX (2017 design value of 67 ppb). *Compare* 40 C.F.R. §§ 81.303, .306, .311, .313, .315, .319, .337, .344, *with* Ozone Design Values, 2017, tbl.4 (County Status),

https://www.epa.gov/sites/production/files/2018-07/ozone_designvalues_20152017_final_07_24_18.xlsx.

For PM_{2.5}, such areas include Wayne County, MI (2017 design value of 11.2 µg/m³ for the annual PM_{2.5} NAAQS); Butler County, OH (2017 design value of 11.1 µg/m³ for the annual PM_{2.5} NAAQS); Knox County, TN (2017 design value of 34 µg/m³ for the 24-hour PM_{2.5} NAAQS); and Harris County, TX (2017 design value of 10.7 µg/m³ for the annual PM_{2.5} NAAQS). *Compare* 40 C.F.R. §§ 81.323, .336, .343, .344, *with* PM_{2.5} Design Values, 2017, tbl.4 (PM_{2.5} County-level Summary for Annual and 24-hour Design Values, 2015-

2017), https://www.epa.gov/sites/production/files/2018-07/pm25_designvalues_20152017_final_07_24_18.xlsx.

The SILs Memo says that an unlimited number of new or modified major sources can be constructed in such areas, so long as the permitting authority finds their ambient impact will be below the relevant SIL, even if modeling undisputedly shows that the source's ambient impact will cause the area to have air quality that violates the health-protective NAAQS.

17. Further, the declarations show that Sierra Club members live, work, and engage in everyday activities in areas that are designated nonattainment under the ozone and PM_{2.5} NAAQS, where additional ozone or PM_{2.5} pollution would worsen violations of the NAAQS or make it more difficult for these areas to improve their air quality and reach attainment. Such areas include portions of Kern County, CA (ozone and PM_{2.5}); portions of Los Angeles County, CA (ozone and PM_{2.5}); portions of Ventura County, CA (ozone); Will County, IL (ozone); St. Clair, Washtenaw, and Wayne Counties, MI (ozone); Butler County, OH (ozone); and Harris County, TX

(ozone). 40 C.F.R. §§ 81.305, .323, .336, .344. All permits issued for sources just outside these nonattainment areas, or within hundreds of miles of these areas that are upwind from and send ozone, PM_{2.5}, and their precursors into these areas, will exacerbate their nonattainment status, and make it more difficult for these communities to improve their air quality to achieve attainment status.

18. I am aware from my work and from published EPA findings that ozone pollution, PM_{2.5} pollution, and their precursors can travel hundreds of miles through the air from where they are emitted to downwind areas, where this pollution can cause or contribute to violations of ozone and PM_{2.5} NAAQS and PM_{2.5} increments. *See, e.g.*, EPA, Interstate Air Pollution Transport, <https://www.epa.gov/airmarkets/interstate-air-pollution-transport> (last updated Sept. 4, 2018); 76 Fed. Reg. 48,208 (Aug. 8, 2011). Accordingly, the health and welfare of Sierra Club members are threatened not only by increases in emissions of PM_{2.5} and its precursors and ozone-forming precursors in their own communities, but also by increases in other areas near and far.
19. From experience, as well as publicly available documents, I am aware that emissions from even a single new stationary source can substantially increase ambient levels of harmful air pollution. For instance, the project proponent's modeling for the FG LA chemical plant in St. James Parish, Louisiana, predicted maximum PM_{2.5} increases of 8.94 µg/m³ 24-hour (nearly the entire Class II increment) and 1.67 µg/m³ annual (over 40% of the Class II increment), with a predicted maximum ozone increase of 2.59 ppb. Zephyr Env'tl. Corp., Air Quality Analysis: Dispersion Modeling Report in Support of an Application for a Prevention of Significant Deterioration Permit for FG LA LLC Complex, St. James Parish, Louisiana, at 32 tbl.11-1, 40 tbl.11-10 (July 2018) (Att. 1), <http://edms.deq.louisiana.gov/app/doc/querydef.aspx> (search AI 198351 and Media – Air Quality; retrieve Doc. ID No. 11246153). The project proponent's modeling for the IronUnits iron smelter in Lucas County, Ohio, predicts a maximum ambient PM_{2.5} increase of 6.29 µg/m³ 24-hour and 1.09 µg/m³ annual. IronUnits LLC, Appl. for PSD Review and Issuance of a PTI

at 6-2 tbl.6-1 (Nov. 2017) (Att. 2),

https://epa.ohio.gov/Portals/27/pti_applications/IU%20Application%2012-06-2017.pdf. The state's project summary for the proposed (but ultimately

canceled) Tenaska coal-fired power plant in Christian County, Illinois, predicted that the project would cause a maximum ambient PM_{2.5} increase of 5.79 µg/m³ 24-hour (more than half the Class II increment) and 0.82 µg/m³ annual. Illinois EPA, Project Summary for a Construction Permit

Application from Christian County Generation, LLC (Att. 3),

<http://www.epa.state.il.us/public-notice/2011/christian-county-generation/project-summary.pdf>.

20. There are many major sources of PM_{2.5} and ozone-forming pollution in PSD areas where Sierra Club members live, work, and recreate, as well as in nearby areas, and upwind areas where emissions are transported into the areas with Sierra Club members. *See* EPA, National Emissions Inventory, 2014 Sector Emissions Table, https://edap.epa.gov/public/extensions/nei_report_2014/dashboard.html#table-db (select as "Pollutant" "Nitrogen Oxides," "PM2.5," "Sulfur Dioxide," and "Volatile Organic Compounds" and click on "Point Source (simple)" to see a list of stationary sources of those air pollutants, including the number of tons per year emitted by each source). Further, as the permits and permit applications discussed throughout this declaration reflect, companies regularly seek to construct new major sources and regularly seek to modify existing major sources like these, both of which require PSD permits. *See, e.g.*, 75 Fed. Reg. 64,864, 64,892/2 (Oct. 20, 2010) (estimating that 274 PSD permits will issue each year).
21. Publicly available documents show that sources routinely seek to take advantage of SILs and have invoked SIL exemptions in connection with certain pollutants as a way to avoid providing a cumulative impact analysis to demonstrate compliance with NAAQS and increments, or even to receive a preconstruction permit despite cumulative impact analysis's showing they will cause or contribute to violations of NAAQS or increments, even though these sources predicted high levels of emissions. For instance:

- a. The Regents of the University of Michigan – Central Power Plant in Ann Arbor (Washtenaw County), Michigan, did not engage in a facility-wide NAAQS and PSD increment modeling analysis due to their reliance on SILs. The Regents of University of Michigan, Permit No. 1-18, Technical Fact Sheet at 5 (July 12, 2018) (Att. 4), <http://www.deq.state.mi.us/aps/downloads/permits/PubNotice/1-18/1-18FactSheet.pdf>; *see also* Mich. Dep’t of Env’tl. Quality, Air Quality Div., The Regents of the University of Michigan Central Power Plant, Permit No. 1-18, Response to Comments Document at 4 (Aug. 23, 2018) (“The [PM_{2.5}] SIL is provided by the USEPA to determine which impacts will not cause or contribute to any violation.”) (Att. 5), <http://www.deq.state.mi.us/aps/downloads/permits/PubNotice/1-18/1-18RTC.pdf>.
- b. The Premcor/Valero Refinery in Port Arthur (Jefferson County), Texas, similarly evaded further analysis for multiple pollutants’ impacts on the NAAQS and increments due to its reliance on SILs, including on a prior EPA action relating to PM_{2.5} SILs. Premcor Refining Group, Preliminary Determination Summary at 7, 13 (pdf pp.71, 77) (Att. 6), <http://www14.tceq.texas.gov/epic/eCID/> (search Customer No. CN601420748, select “Display all Activity Actions” under TCEQ Docket Num. 2018-0572-AIR, and then retrieve “Notice – Prelim Decision” dated Nov. 20, 2017); Premcor Refining Group, Permit Amendment Source Analysis & Technical Review (Att. 7).
- c. IronUnits LLC in Toledo (Lucas County), Ohio, relied on SILs to avoid cumulative impact analysis for certain NAAQS and increments and to excuse modeled violations of multiple NAAQS. IronUnits LLC, Appl. for PSD Review and Issuance of a PTI at 6-1 to -3 (Nov. 2017) (Att. 2), https://epa.ohio.gov/Portals/27/pti_applications/IU%20Applicat

[ion%2012-06-2017.pdf](#); *see* Ohio EPA, Final Air Pollution Permit-to-Install, Response to Comments at pdf p.26 (Feb. 9, 2018) (“the facility conducted a culpability analysis which demonstrated that facility impacts contribute insignificantly to the modeled exceedances.”) (Att. 8),
http://wwwapp.epa.ohio.gov/dapc/permits_issued/1680428.pdf.

- d. The Oregon Energy Center in Oregon (Lucas County), Ohio, did not undertake cumulative impact analysis for multiple pollutants due to its reliance on SILs. Ohio EPA, Draft Air Pollution Permit-To-Install – Oregon Energy Center at 39-40 (Aug. 17, 2017) (Att. 9),
<http://epawwwextp01.epa.ohio.gov:8080/ords/epaxp/f?p=999:10:0> (search Facility ID 0448020113; retrieve Doc. ID. No. 1594038); *see also* Ohio EPA, Final Air Pollution Permit-To-Install – Oregon Energy Center (Sept. 27, 2017) (issuing permit),
http://wwwapp.epa.ohio.gov/dapc/permits_issued/1605601.pdf.
- e. DTE Electric Company’s Belle River Combined Cycle Power Plant in China Township (St. Clair County), Michigan, relied on SILs to avoid undertaking cumulative impact analysis for several pollutants. DTE Electric Company, Belle River Combined Cycle Power Plant, Technical Fact Sheet at 6-8 (May 16, 2018) (Att. 10),
<http://www.deq.state.mi.us/aps/downloads/permits/PubNotice/19-18/19-18FactSheet.pdf>.
- f. The FG LA LLC (Formosa) Facility in St. James Parish, Louisiana, relied on SILs for multiple pollutants to avoid cumulative impact analysis for some standards, and to excuse modeled violations of certain NAAQS; this included reliance on a prior EPA action relating to PM_{2.5} SILs. Zephyr Envntl. Corp., Air Quality Analysis: Dispersion Modeling Report in Support of an Application for a Prevention of Significant Deterioration Permit for FG LA LLC Complex, St. James

Parish, Louisiana, at 21-22, 32-33, 35-36 (July 2018) (Att. 1), <http://edms.deq.louisiana.gov/app/doc/querydef.aspx> (search AI 198351 and Media – Air Quality; retrieve Doc. ID No. 11246153).

- g. In the Preliminary Determination Summary for GCGV Asset Holding LLC in Gregory (San Patricio County), Texas, the air quality analysis relied on the use of SILs for carbon monoxide. Texas Comm'n on Env'tl. Quality, Combined Notice of Public Meeting and Notice of Appl. for an Air Quality Permit at pdf p.93 (April 24, 2018) (Att. 11), http://www14.tceq.texas.gov/epic/eNotice/index.cfm?fuseaction=main.PublicNoticeDescResults&requesttimeout=5000&CHK_ITEM_ID=609478812018201.

22. Publicly available documents show that permitting authorities and applicants have already been relying on the SILs Memo that is being challenged in this case and that permitting authorities and applicants have even been relying on the draft version of the SILs Memo. The reliance on the Memo has already undermined the permit review process and reduced the air quality information available by allowing sources to submit applications that do not contain the impact analysis that is required. For instance:

- a. The Illinois EPA's analysis of the preconstruction permit application of Jackson Energy Center in Elwood (Will County), Illinois, relies expressly on the SILs Memo to propose to grant the permit; like the applicant itself, Illinois EPA uses the SIL to excuse the applicant from conducting a cumulative impact analysis for the annual PM_{2.5} NAAQS and increment, and uses the SIL to excuse modeled violations of the 24-hour PM_{2.5} NAAQS and increment at the culpability analysis stage. Illinois EPA, Project Summary for a Construction Permit Appl. from Jackson Generation, LLC at 15-19 (Sept. 2018) (Att. 12), <https://external.epa.illinois.gov/WebSiteApi/api/PublicNotices/GetAirPermitDocument/3919>.

- b. The Fact Sheet for the PSD Permit for PotlatchDeltic Land and Lumber, LLC – St. Maries Complex in St. Maries (Benewah County), Idaho, states that based “on the April 2018 ozone SILs guidance and supporting technical and legal documents ... EPA concludes that the project will not cause or contribute to a violation of the ozone NAAQS.” EPA, Permit Analysis for Draft PSD Permit for PotlatchDeltic St. Maries Complex at 10 (Att. 13), <https://www.epa.gov/sites/production/files/2018-09/documents/potlatchdeltic-stmaries-psd-fact-sheet-2018.pdf>.
- c. In approving the Palmdale Energy Project in Palmdale (Los Angeles County), California, EPA relied on the legal analysis in the SILs Memo to justify not engaging in a more comprehensive air quality analysis for oxides of nitrogen and carbon monoxide. EPA Region 9, Response to Public Comments on Proposed PSD Permit, Palmdale Energy Project at 48 n.47 (April 2018) (Att. 14), <https://www.regulations.gov/document?D=EPA-R09-OAR-2017-0473-0029>.
- d. A facility in Washington State (Walla Walla County) relied on the draft SILs Memo to avoid engaging in further analysis for PM_{2.5}. Trinity Consultants, Packaging Corp. of America-Wallula Mill PSD Appl. at pdf p.149 (May 2018) (Att. 15), https://fortress.wa.gov/ecy/ezshare/AQ/PSD/PSD_PDFS/BoiseWallulaPSDApp201805.pdf.
- e. In the Technical Support Document for Tucson Electric Power in Tucson (Pima County), Arizona, the facility relies on the draft SILs Memo as justification for waiving the requirement to conduct cumulative analysis for PM_{2.5} and other pollutants. Tucson Electric Power, Technical Support Document at pdf pp.13, 47-49 & nn.4, 7 (Aug. 2018) (Att. 16), http://webcms.pima.gov/UserFiles/Servers/Server_6/File/Government/Environmental%20Quality/Air/TEP%20PSD%20Webpage/1052_Technical_Support_Document.pdf.

23. Based on my experience with the permitting of major pollution sources, I am concerned that EPA's exemptions will soon lead to additional similar permits that use SILs to evade Clean Air Act requirements, thus endangering the health and welfare of Sierra Club members.
24. Also, EPA's SILs Memo deprives Sierra Club and our members of the right to review the cumulative impact analysis under 42 U.S.C. § 7475(a)(3), (e)(2), and EPA's rules for all major sources that apply for PSD permits. In examining proposed PSD permits, Sierra Club staff regularly review and analyze this information. The impact analysis the Act requires is integral to our ability to evaluate whether a proposed permit will cause or contribute to a violation of a NAAQS or an increment. Waiving this requirement for certain sources makes it significantly harder for the Club and its members to consider and comment on a proposed PSD permit in a meaningful way. For the same reasons, the waiver will substantially impair the Club's and its members' ability to exercise our procedural rights to advocate for stronger limits on PM_{2.5} and PM_{2.5}- and ozone-precursor emissions as necessary to avoid violating (or worsening existing violations of) the PM_{2.5} NAAQS and increments and ozone NAAQS, and, where violations will not be avoided, to urge the permit be denied.
25. Based on our experience, a cumulative impact analysis is essential to determining whether emissions from a proposed source will cause or contribute to violation of NAAQS and increments. Only by adding the proposed source's projected emissions impact to the impact caused by other existing pollution sources and by expected emissions increases from other sources can the predicted impact on actual air quality and increment consumption be reasonably determined. Based on my experience as an environmental advocate and with PSD permitting in particular, I do not believe that it is possible to assess a proposed source's full impact on NAAQS and increment compliance by only modeling its impact standing alone, without analyzing how its impact will interact with the air quality impact from other sources and emissions, to understand the overall cumulative impact.

26. Because many of our members rely on Sierra Club to protect them and their families from harmful new and modified industrial sources of air pollution, by undermining Sierra Club's ability to participate fully in the permit review process and then litigate effectively if needed, the SILs Memo also harms Sierra Club's ability to fulfill its mission and commitment to our members. I expect that for some permits, waiver of cumulative impact analysis requirement will require Sierra Club to expend resources and staff time that would not otherwise have been necessary (*e.g.*, to hire our own experts to conduct cumulative impact analyses, and to use our own resources to collect data in support of such analyses) in order to provide robust advocacy on behalf of our members. Based on past experience, I anticipate that hiring a modeling expert would likely cost Sierra Club thousands of dollars per case.
27. Vacating the SILs Memo would restore protection for Sierra Club members' health and welfare. It would also allow Sierra Club to see important pieces of information about air quality in affected areas, as the Act requires, and to evaluate this information as part of each individual permit process, in order to submit informed, meaningful comments and engage in advocacy and litigation. All this is vital to carrying out our mission and protecting our members' concrete interest in their and their family's overall wellbeing.

Dated this 9th day of November, 2018.

Mary Anne Hitt

Mary Anne Hitt

Attachment 1

Excerpt

AIR QUALITY ANALYSIS
DISPERSION MODELING REPORT IN SUPPORT OF AN APPLICATION
FOR A PREVENTION OF SIGNIFICANT DETERIORATION PERMIT
FOR
FG LA LLC COMPLEX
ST. JAMES PARISH, LOUISIANA

Submitted To:
LDEQ AIR PERMITTING SECTION, HQ-528
602 N. 5TH STREET
BATON ROUGE, LA 70802

Submitted For:
FG LA LLC

Submitted By:
ZEPHYR ENVIRONMENTAL CORPORATION
A POWER ENGINEERS COMPANY
2600 VIA FORTUNA, SUITE 450
AUSTIN, TEXAS 78746

JULY 2018



**AIR QUALITY ANALYSIS
FG LA LLC COMPLEX
ST. JAMES PARISH, LOUISIANA**

proposed emissions of NO₂, SO₂, PM₁₀, and PM_{2.5}. There are no PSD increments for CO and CO_{2e}.

A preliminary impacts analysis was first conducted using project-related emissions to determine if a detailed PSD increment analysis is required. This process is described in greater detail in Sections 6.2.1 and 6.2.3.

6.2 MODELING APPROACH – PRELIMINARY IMPACT ANALYSIS

Per EPA guidance, a preliminary impact analysis, i.e., significant impact analysis (SIA), was conducted to commence the AQA. The purpose of the preliminary analysis is to determine whether emissions from the FG LA complex have a predicted impact greater than the EPA Significant Impact Level (SIL) threshold. If predicted impacts are greater than the SIL, additional detailed analysis is required. The preliminary modeling analyses are described in the sections below.

6.2.1 Area of Significant Impact (AOI) Analysis

For those compounds subject to PSD analyses, a preliminary impact analysis is conducted to determine if the predicted off-property ground-level concentrations, from the complex, are greater than the EPA's SILs. The AOI is defined as all locations with predicted concentrations that are equal to or greater than the established SILs. No further modeling is required to demonstrate compliance with the NAAQS or PSD increments if the applicable maximum predicted concentration is below the SIL.

Preliminary modeling was conducted for the proposed allowable NO₂, CO, SO₂, PM₁₀, and PM_{2.5} emissions from the FG LA complex to determine the AOI for each pollutant and averaging period, and whether further analysis ("full impact analysis") is required. For this preliminary analysis, the maximum predicted highest 1st-high (H1H) concentrations for the five modeled years of meteorological data or the five-year average of the maximum predicted highest 1st-high (H1H) concentrations for the five modeled years was calculated for each receptor. Only receptors with predicted impacts above the SILs are included in the full-impact modeling analysis.

The FG LA complex AOI analysis results are provided in Section 11.1.1.

6.2.2 PSD Pre-Construction Monitoring Analysis

For those compounds subject to PSD analyses, a preliminary impact analysis was conducted to determine if the predicted off-property NO₂, CO, SO₂, PM₁₀, and PM_{2.5} concentrations from the FG LA complex are greater than the EPA's SMCs. If the maximum predicted concentration for a pollutant is less than the applicable SMC, the demonstration is complete. If the maximum concentration is greater than the SMC, representative monitoring background concentrations are

**AIR QUALITY ANALYSIS
FG LA LLC COMPLEX
ST. JAMES PARISH, LOUISIANA**

collected from existing ambient monitors as described in Section 4.3 to establish the existing air quality for the area.

The FG LA complex results compared to the EPA SMCs are provided in Section 11.1.2.

6.2.3 SIL Justification Analysis

On January 22, 2013, the United States Court of Appeals for the District of Columbia Circuit granted a request from the EPA to vacate and remand to the EPA the portions of two PSD PM_{2.5} rules [40 CFR 51.166(k)(2) and 40 CFR 52.21(k)(2)] addressing select provisions of the PM_{2.5} SILs so that the EPA could voluntarily correct an error in these provisions. The EPA amended its regulations and removed the vacated PM_{2.5} SILs effective December 9, 2013.

The Federal rule that defines when a major source or major modification is considered to cause or contribute to a exceedance of a NAAQS [40 CFR 51.165(b)(2)] was not vacated in the January 22, 2013 decision or December 9, 2013 amendment. In the EPA's *Circuit Court Decision on PM_{2.5} Significant Impact Levels and Significant Monitoring Concentrations, Questions and Answers, March 4, 2013* document, the EPA states that applicants can continue to demonstrate that proposed PM_{2.5} emissions do not contribute to existing exceedances of the NAAQS by demonstrating that the proposed source's PM_{2.5} impacts do not "significantly" contribute to existing PM_{2.5} NAAQS exceedances. The PM_{2.5} SILs (1.2 µg/m³, 24-hour; 0.3 µg/m³ annual) originally promulgated in 2014 (75 FR 64864) is proposed to be used to assess whether impacts do not significantly contribute to PM_{2.5} NAAQS exceedances. To use the PM_{2.5} SIL, EPA's *Guidance for PM_{2.5} Permit Modeling* (May 20, 2014) recommends using ambient monitoring data to show that the difference between the PM_{2.5} NAAQS and representative preconstruction background concentrations is greater than or equal to the SIL. In support of this requirement, the difference between the PM_{2.5} NAAQS and the representative background concentrations are summarized in Table 6-1.

Based on the ambient monitoring data from Iberville Parish, Louisiana, the average measured PM_{2.5} concentrations for 2015-2017 are presented below.

**Table 6-1
PM_{2.5} NAAQS SIL Justification**

Averaging Period	NAAQS (µg/m³)	Monitoring Concentration¹ (µg/m³)	Difference Between NAAQS and Monitoring Concentration (µg/m³)	SIL (µg/m³)
24-Hour	35	19.00	16	1.2
Annual	12	8.20	3.8	0.3

¹ Monitoring data from the Geismar Monitoring Station in Iberville Parish, Louisiana (AQS ID: 22-047-0005).

The differences between the NAAQS and the current ambient air monitor concentrations are far greater than the EPA SIL values for both 1-hour and annual averaging periods. In its guidance,

AIR QUALITY ANALYSIS
FG LA LLC COMPLEX
ST. JAMES PARISH, LOUISIANA

for this situation, the EPA states that in most cases it would be sufficient for permitting authorities to conclude that a proposed source with a predicted impact below the EPA SIL value will not cause or contribute to an exceedance of the NAAQS. Based on this EPA guidance, where the FG LA project-related impacts are less than the EPA SILs, we conclude that the proposed PM_{2.5} emissions will not contribute significantly to existing ambient air concentrations at those locations. Therefore, the EPA SILs were utilized to define the scope of the full impact PM_{2.5} NAAQS and PSD increment analyses.

6.3 MODELING APPROACH – FULL IMPACT ANALYSIS

Full-impact modeling analyses were conducted for comparison with the NAAQS and PSD increments for pollutants and averaging periods with preliminary impacts equal to or greater than the SIL. The modeling analyses are described in the sections below.

6.3.1 NAAQS Analysis

A full-impacts modeling analysis was performed for applicable emissions to predict ambient concentrations for comparison to the NAAQS. This analysis included site-wide emissions from the FG LA complex as well as off-property sources that may affect the AOI. The off-property sources were obtained from LDEQ ERIC database and were updated as discussed in Section 5.2.3.

The full-impact modeling analysis utilized a receptor grid following the LDEQ guidelines. Consistent with EPA guidance, only receptors with predicted concentrations equal to or greater than the SIL in the preliminary modeling analysis were used. Background concentrations were then added to the full-impact modeling results.

The FG LA complex NAAQS analysis results are provided in Section 11.2.1.

6.3.2 PSD Increment Consumption Analysis

A full impact analysis was performed for applicable NO₂, SO₂, PM₁₀ and PM_{2.5} emissions for comparison to the PSD increment consumption limits. This analysis included site-wide FG LA proposed and from existing and proposed PSD increment-consuming emission sources affecting the project's impact area, as discussed in Section 5.2.3.

The full impact modeling analysis utilized receptor grids following the LDEQ guidelines. Consistent with EPA guidance, only receptors with predicted NO₂, SO₂, PM_{2.5}, and PM₁₀ concentrations equal to or greater than the SIL in the preliminary modeling analysis were used.

The PSD increment consumption analysis results are provided in Section 11.2.2.

AIR QUALITY ANALYSIS
FG LA LLC COMPLEX
ST. JAMES PARISH, LOUISIANA

6.4 MODELING APPROACH – PSD CLASS I AREAS

The nearest Class I area is Breton Wilderness Area which is approximately 180 kilometers from the FG LA complex property line. The Class I modeling analysis will be provided in a separate document.

6.5 MODELING APPROACH – TOXIC AIR POLLUTANTS IMPACT ANALYSIS

For any Louisiana Toxic Air Pollutant (LTAP) that is emitted at a greater rate than the Table 51.1 Minimum Emission Rate (MER), LAC 33:III.5109.B, requires a dispersion modeling analysis to determine compliance with the Table 51.2 Ambient Air Standards (AAS) over public accessible property.

The modeling analyses were conducted with the AERMOD dispersion model and used the latest year (2017) of the five-year meteorological database. The following modeling approach was used in the LTAP analysis.

6.5.1 Initial Screening Model

Consistent with the LDEQ modeling guidelines Section 3.1, an impacts analysis was conducted for FG LA project emissions for each TAP that exceeds the MER. If the maximum modeled concentrations are below 7.5% of the AAS, then no further analyses are required.

For the compounds with emissions greater than the MER, the initial screening analysis results are provided in Section 11.3.1.

6.5.2 Initial Refined Model

Consistent with the LDEQ modeling guidelines Section 3.2, if the maximum modeled concentrations from FG LA project sources are greater than 7.5% of the AAS, then the AOI was determined as the furthest extent of the concentration, representing 7.5% of the AAS.

This analysis includes site-wide emissions from the complex as well as offsite sources that may affect the AOI. The off-site sources were obtained from DEQ ERIC database and were updated as discussed in Section 5.2.4. If the maximum modeled concentrations are less than 75% of the AAS, then no further analyses are required.

For the compounds with predicted concentrations greater than 7.5% of the AAS, the initial refined analysis results are provided in Section 11.3.2.

AIR QUALITY ANALYSIS
FG LA LLC COMPLEX
ST. JAMES PARISH, LOUISIANA

6.5.3 Additional Refined Model

Consistent with the LDEQ modeling guidelines Section 3.3, if the maximum modeled concentrations are greater than 75% of the AAS, then the other four years of meteorological data were modeled. If the modeled concentrations for all years are less than the AAS, then no further analyses are required.

For the compounds with predicted concentrations greater than 75% of the AAS, the additional refined analysis results are provided in Section 11.3.3.

6.6 OZONE IMPACT ANALYSIS

An ozone impact analysis is required as the VOC emissions from the complex are greater than 100 tpy. Based on discussions with LDEQ, CAMx photochemical modeling was conducted to assess the FG LA project emission's potential impact on ozone in the area. The photochemical modeling assessment is provided in Appendix P in detail and results are summarized in Section 11.4.

**AIR QUALITY ANALYSIS
FG LA LLC COMPLEX
ST. JAMES PARISH, LOUISIANA**

11.0 MODELING RESULTS

Guidance from the EPA's *Guidance on Air Quality Models* (40 CFR Part 51, Appendix W) was followed in selecting the predicted concentrations used to determine compliance with the NAAQS and PSD Increment. Guidance from the LDEQ's *AQMP* was followed in selecting the predicted concentrations used to determine compliance with the LTAP. Applicable standards, limits and screening levels are summarized in the following sections.

For reference in reviewing electronic model input and output files, a table is provided in Appendix T that lists pollutant IDs utilized for the files based on the corresponding modeled pollutant-averaging period combinations. Copies of all modeling input and output files are included as part of the electronic files submitted to the LDEQ.

11.1 PRELIMINARY IMPACTS ANALYSIS

11.1.1 Significant Impact Level Analysis Results

As described in Section 6.2.1, the modeling was conducted for the FG LA complex proposed allowable emissions to determine whether full impacts analysis is required and, if so, to determine the AOI. The maximum ground-level impact concentrations, the form of the maximum ground-level concentrations, and their corresponding SILs are summarized in Table 11-1.

**Table 11-1
SIL Analysis Results**

Pollutant	Averaging Period	Type of Analysis	Form	Maximum Predicted Concentrations (µg/m ³)	SIL (µg/m ³)	Greater Than SIL
NO ₂	1-Hour	NAAQS	5-Year Average of 1 st High	65.05	7.5	Yes
	Annual	NAAQS and Increment	1 st High of 5 Years	6.58	1	Yes
CO	1-Hour	NAAQS	1 st High of 5 Years	1,310.13	2,000	No
	8-Hour	NAAQS	1 st High of 5 Years	677.53	500	Yes
SO ₂	1-Hour	NAAQS	5-Year Average of 1 st High	3.14	7.8	No
	3-Hour	NAAQS and Increment	1 st High of 5 Years	25.83	25	Yes
	24-Hour	Increment	1 st High of 5 Years	3.12	5	No
	Annual	Increment	1 st High of 5 Years	0.20	1	No
PM ₁₀	24-Hour	NAAQS and Increment	1 st High of 5 Years	11.03	5	Yes
	Annual	Increment	1 st High of 5 Years	2.21	1	Yes
PM _{2.5}	24-Hour	NAAQS	5-Year Average of 1 st High	7.97	1.2	Yes
		Increment	1 st High of 5 Years	8.94		Yes
	Annual	NAAQS	5-Year Average of the Annual Averages	1.60	0.2	Yes
		Increment	1 st High of 5 Years	1.67		Yes

AIR QUALITY ANALYSIS
FG LA LLC COMPLEX
ST. JAMES PARISH, LOUISIANA

The predicted 1-hour CO, 1-hour SO₂, 24-hour SO₂, and annual SO₂ concentrations are less than their respective SILs. No additional modeling is required for these pollutants and averaging periods.

The predicted 1-hour NO₂, and annual NO₂, 8-hour CO, 24-hour PM_{2.5}, and annual PM_{2.5}, and 24-hour PM₁₀, and annual PM₁₀ concentrations are greater than their respective SILs. Therefore, full impact modeling analyses were conducted for these pollutants and averaging periods.

11.1.2 PSD Ambient Monitoring Data Analysis Results

As described in Section 6.2.2, this modeling was conducted for the FG LA complex proposed allowable emissions to determine whether the project is exempt from the ambient pre-construction monitoring data gathering requirements. The maximum ground-level impact concentrations, the form of the maximum ground-level concentrations, and their corresponding SMCs are summarized in Table 11-2.

Table 11-2
PSD Monitoring Requirement Analysis Results

Pollutant	Averaging Period	Form	Maximum Predicted Concentrations at Each Receptor (µg/m ³)	SMC (µg/m ³)	Greater Than SMC
NO ₂	Annual	1 st High of 5 Years	6.58	14	No
CO	8-Hour	1 st High of 5 Years	677.53	575	Yes
SO ₂	24-Hour	1 st High of 5 Years	3.12	13	No
PM ₁₀	24-Hour	1 st High of 5 Years	11.03	10	Yes

The predicted NO₂ and SO₂ concentrations are less than their respective SMCs. Therefore, compilation of pre-construction monitor data is not required for these pollutants.

The predicted CO and PM₁₀ concentrations are greater than their respective SMCs. As discussed in Section 6.2.2, the January 22, 2013 Court decision does allow the exemption of a PM_{2.5} pre-construction monitoring analysis. As discussed in Section 4.3, FG LA proposes the use of existing ambient air monitoring data from a representative monitor to meet the CO, PM_{2.5}, and PM₁₀ pre-construction monitoring data requirement. A summary of the existing ambient air monitoring data is provided in Section 4.2.

11.2 FULL-IMPACT ANALYSIS

11.2.1 NAAQS Analysis Results

Based on the results of the preliminary impact determination, full impact NAAQS modeling analyses are required for 1-hour NO₂, annual NO₂, 8-hour CO, 3-hour SO₂, 24-hour PM_{2.5}, annual PM_{2.5}, and 24-hour PM₁₀. The full impacts NAAQS modeling results are discussed below.

**AIR QUALITY ANALYSIS
FG LA LLC COMPLEX
ST. JAMES PARISH, LOUISIANA**

11.2.1.1 NAAQS Analysis Results – FG LA Project Sources Only

For reference, the predicted ground-level concentrations associated with the FG LA project sources only are summarized in Table 11-3. The background concentrations for the project area is added to these results for comparison to the NAAQS. The predicted total concentrations associated with the project-related emissions are less than the NAAQS for the applicable pollutants and averaging periods.

**Table 11-3
NAAQS Analysis Results – FG LA Sources Only**

Pollutant	Averaging Period	Form	Maximum Predicted Concentrations ($\mu\text{g}/\text{m}^3$)	Background Concentration ($\mu\text{g}/\text{m}^3$)	Total ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
NO ₂	1-Hour	5-Year Average of 98 th Percentile of the 1-Hour Daily Maximums	63.48	28.81	92.29	188
	Annual	1 st High of 5 Years	6.58	7.54	14.12	100
CO	8-Hour	2 nd High of 5 Years	589.12	1,143.84	1,732.96	10,000
SO ₂	3-Hour	2 nd High of 5 Years	19.26	27.10	46.36	1,300
PM _{2.5}	24-Hour	5-Year Average of 98 th Percentile of the 24-Hour Averages	5.76	19.00	24.76	35
	Annual	5-Year Average of the Annual Averages	1.60	8.20	9.80	12
PM ₁₀	24-Hour	6 th High of 5 Years	9.30	76.00	85.30	150

AIR QUALITY ANALYSIS
FG LA LLC COMPLEX
ST. JAMES PARISH, LOUISIANA

11.2.1.2 NAAQS Analysis Results – Off-Property and FG LA Project Sources

The predicted ground-level concentrations from full impact NAAQS analysis corresponds to contributions from the FG LA project sources, other existing off property sources, and the background concentrations. These full impact NAAQS results are summarized in Table 11-4. These total predicted concentrations are conservative because the background concentration includes contributions from the modeled existing off property sources (i.e., existing sources are being double-counted). The total impacts are compared to the NAAQS.

Table 11-4
NAAQS Analysis Results – Project FG LA and Off-Site Sources

Pollutant	Averaging Period	Form	Maximum Predicted Concentrations ($\mu\text{g}/\text{m}^3$)	Background Concentration ($\mu\text{g}/\text{m}^3$)	Total ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
NO ₂	1-Hour	5-Year Average of 98 th Percentile of the 1-Hour Daily Maximums	393.71 ¹	28.81	422.53	-
			158.45 ²	28.81	187.26	188
	Annual	1 st High of 5 Years	20.37	7.54	27.91	100
CO	8-Hour	2 nd High of 5 Years	1,548.91	1,143.84	2,692.75	10,000
SO ₂	3-Hour	2 nd High of 5 Years	65.57	27.10	92.67	1,300
PM _{2.5}	24-Hour	5-Year Average of 98 th Percentile of the 24-Hour Averages	18.30 ¹	19.00	37.30	-
			15.74 ²	19.00	34.74	35
	Annual	5-Year Average of the Annual Averages	3.59	8.20	11.79	12
PM ₁₀	24-Hour	6 th High of 5 Years	24.21	76.00	100.21	150

¹ The maximum predicted ground-level concentrations exceed the NAAQS at select receptors (locations). Additional modeling, based on EPA guidance using MAXDCONT analysis, was conducted to demonstrate that the proposed FG LA project sources do not cause or contribute to the modeled exceedances at these locations.

² The maximum predicted ground-level concentrations on receptors after MAXDCONT analysis was performed. No additional modeling is required on these receptors.

The predicted annual NO₂, 3-hour SO₂, annual PM_{2.5}, and 24-hour PM₁₀ concentrations are less than the NAAQS. No additional modeling demonstration is required for these pollutants and averaging periods.

The total predicted 1-hour NO₂ and 24-hour PM_{2.5} maximum concentrations require further analysis for the NAAQS compliance demonstration. As shown in Table 11-3, the predicted 1-hour NO₂ and 24-hour PM_{2.5} total concentrations from the FG LA project sources are less than the NAAQS. Therefore, it clear that the large 1-hour NO₂ and 24-hour PM_{2.5} modeled concentrations listed in Table 11-4 are caused by off property sources. To establish this fact and demonstrate compliance with the NAAQS, additional analysis was performed.

As set forth in LDEQ's AQMP, Section 2.2, at p. 2-5, FG LA "must determine the proposed project's contribution to the potential exceedance," for 1-hour NO₂ and 24-hour PM_{2.5}. As per the

**AIR QUALITY ANALYSIS
FG LA LLC COMPLEX
ST. JAMES PARISH, LOUISIANA**

AQMP, "if the maximum contribution from the proposed project is less than the significance level at the receptor(s) and time(s) of the potential exceedance(s), the proposed project will not cause nor significantly contribute to the potential NAAQS exceedance(s); therefore, no further analysis is required." LDEQ AQMP, p. 2-6.

Pursuant to LDEQ's AQMP, additional modeling was conducted to demonstrate that the proposed emissions from FG LA project sources do not cause or contribute to the modeled exceedances. This analysis was conducted using AERMOD's MAXDCONT tool. The analysis was conducted for each level of impact (8th high, 9th high, 10th high, etc.) for all receptors which had a predicted exceedance of the NAAQS. For each modeled receptor, the MAXDCONT analysis terminates when the model obtains a concentration result that is less than the NAAQS.

The results of the MAXDCONT modeling analyses are included in Appendix U. The results show that for all periods with predicted NAAQS exceedances, the contribution of the FG LA project sources does not exceed the SILs. This demonstrates that the FG LA project sources do not cause or contribute to any of the modeled exceedances of the 1-hour NO₂ and 24-hour PM_{2.5} NAAQS. No additional modeling demonstration is required for 1-hour NO₂ and 24-hour PM_{2.5}.

11.2.2 PSD Class II Increment Analysis Results

Based on the results of the preliminary impact determination, full impact PSD Increment modeling analyses are required for 1-hour NO₂, annual NO₂, 8-hour CO, 3-hour SO₂, 24-hour PM_{2.5}, annual PM_{2.5}, and 24-hour PM₁₀.

11.2.2.1 PSD Class II Increment Analysis Results – FG LA Sources Only

For reference, the predicted ground-level concentrations associated with the FG LA project sources only are summarized in Table 11-5. The predicted total concentrations associated with the project-related emissions are less than the PSD increment consumption limits for all applicable averaging periods

**Table 11-5
PSD Class II Increment Consumption Analysis Results - FG LA Sources Only**

Pollutant	Averaging Period	Form	Maximum Predicted Concentrations at Each Receptor (µg/m ³)	PSD Class II Increment Consumption Limit (µg/m ³)
NO ₂	Annual	1 st High of 5 Years	6.58	25
SO ₂	3-Hour	2 nd High of 5 Years	19.26	512
PM ₁₀	24-Hour	2 nd High of 5 Years	10.01	30
	Annual	1 st High of 5 Years	2.21	17
PM _{2.5}	24-Hour	2 nd High of 5 Years	7.97	9
	Annual	1 st High of 5 Years	1.67	4

**AIR QUALITY ANALYSIS
FG LA LLC COMPLEX
ST. JAMES PARISH, LOUISIANA**

11.2.2.2 PSD Class II Increment Analysis Results – Off-property and FG LA Sources

The maximum ground-level impact concentrations from the FG LA project sources other existing off property sources, the form of the maximum ground-level concentrations, and the corresponding PSD Increments are summarized in Table 11-6.

**Table 11-6
PSD Class II Increment Consumption Analysis Results –
Project FG LA and Off-Site Sources**

Pollutant	Averaging Period	Form	Maximum Predicted Concentrations at Each Receptor (µg/m ³)	PSD Class II Increment Consumption Limit (µg/m ³)
NO ₂	Annual	1 st High of 5 Years	20.37	25
SO ₂	3-Hour	2 nd High of 5 Years	65.57	512
PM ₁₀	24-Hour	2 nd High of 5 Years	17.31	30
	Annual	1 st High of 5 Years	5.30	17
PM _{2.5}	24-Hour	2 nd High of 5 Years	8.74	9
	Annual	1 st High of 5 Years	2.38	4

The predicted NO₂, SO₂, PM₁₀ and PM_{2.5} concentrations are less than the PSD increment consumption limits for all applicable averaging periods.

11.3 TOXIC AIR POLLUTANTS IMPACT ANALYSIS RESULTS

Based on the MER analysis (included in Appendix B), eleven TAPs have maximum emissions greater than the LDEQ assigned MER.

11.3.1 Initial Screening Analysis Results

As described in Section 6.5.1, the modeling was conducted for proposed allowable emissions to determine whether initial refined analysis is required, if so, to determine the AOI. The maximum ground-level impact concentrations, the form of the maximum ground-level concentrations, and their corresponding 7.5 percent of the AAS thresholds are summarized in Table 11-7.

**Table 11-7
Initial Screening Analysis Results**

TAP	Averaging Period	Maximum Modeled Concentration (µg/m ³)	AAS (µg/m ³)	7.5% AAS (µg/m ³)	Greater than 7.5 % of AAS
Benzene	Annual	2.62	12.00	0.90	Yes
Formaldehyde	Annual	0.03	7.69	0.58	No

AIR QUALITY ANALYSIS
 FG LA LLC COMPLEX
 ST. JAMES PARISH, LOUISIANA

TAP	Averaging Period	Maximum Modeled Concentration (µg/m ³)	AAS (µg/m ³)	7.5% AAS (µg/m ³)	Greater than 7.5 % of AAS
1,3-Butadiene	Annual	0.72	0.92	0.07	Yes
Acetaldehyde	Annual	3.59	45.50	3.41	Yes
Ethylene Oxide	Annual	0.74	1.00	0.08	Yes
Ethylene Glycol	8-Hour	133.92	2,380.00	178.50	No
n-Hexane	8-Hour	342.59	4,190.00	314.25	Yes
Propionaldehyde	8-Hour	0.15	4,290.00	321.75	No
Vinyl Acetate	8-Hour	213.73	830.00	62.25	Yes
Ammonia	8-Hour	44.82	640.00	48.00	No
Sulfuric Acid	8-Hour	0.55	23.80	1.79	No

The predicted formaldehyde, ethylene glycol, propionaldehyde, ammonia, and sulfuric acid concentrations are less than their 7.5 percent of AAS. No additional modeling is required for these TAPs.

The predicted benzene, 1,3-butadiene, acetaldehyde, ethylene oxide, n-hexane, and vinyl acetate concentrations are greater than their 7.5 percent of AAS; therefore, initial refined modeling analyses were conducted for these TAPs.

11.3.2 Initial Refined Analysis Results

Based on the results of the initial screening analysis, initial refined modeling analysis was required for benzene, 1,3-butadiene, acetaldehyde, ethylene oxide, n-hexane, and vinyl acetate to determine whether additional refined modeling analysis is required.

There are no off-property sources located within the respective AOIs for all TAPs. Therefore, for all the TAPs, initial refined modeling results were identical to the initial screening results listed in Section 11.3.1.

The initial refined modeling analysis maximum ground-level impact concentrations and the corresponding AAS thresholds (75 percent of AAS) are summarized in Table 11-8.

AIR QUALITY ANALYSIS
 FG LA LLC COMPLEX
 ST. JAMES PARISH, LOUISIANA

Table 11-8
Initial Refined Analysis Results

TAP	Averaging Period	Maximum Modeled Concentration (µg/m ³)	AAS (µg/m ³)	75% AAS (µg/m ³)	Greater than 75 % of AAS
Benzene	Annual	2.62	12	9	No
1,3-Butadiene	Annual	0.72	0.92	0.69	Yes
Acetaldehyde	Annual	3.59	45.5	34.125	No
Ethylene Oxide	Annual	0.74	1	0.75	No
n-Hexane	8-Hour	342.59	4190	3142.5	No
Vinyl Acetate	8-Hour	213.73	830	622.5	No

The predicted benzene, acetaldehyde, ethylene oxide, n-hexane, and vinyl acetate concentrations are less than their 75 percent of AAS. No additional modeling is required for these TAPs.

The predicted 1,3-butadiene concentrations are greater than their 75 percent of AAS; therefore, additional refined modeling analyses was conducted for 1,3-butadiene.

11.3.3 Additional Refined Analysis Results

The additional refined modeling analysis (using five years of meteorological data) results are presented in Table 11-9. The predicted 1,3-butadiene concentrations are less than the AAS.

Table 11-9
Additional Refined Analysis Results

Pollutant	Averaging Period	Maximum Modeled Concentration (µg/m ³)	AAS (µg/m ³)
1,3-Butadiene	Annual	0.84	0.92

11.4 OZONE IMPACT ANALYSIS

As discussed in Section 6.6, CAMx photochemical modeling was conducted to assess the FG LA project emission's potential impact on ozone in the area. The detailed photochemical modeling assessment is provided in Appendix P. Summary of the CAMx modeling results for O₃ are presented in Table 11-10.

AIR QUALITY ANALYSIS
FG LA LLC COMPLEX
ST. JAMES PARISH, LOUISIANA

Table 11-10
Photochemical Modeling Results

Pollutant	Averaging Period	Maximum Modeled Concentration (ppb)	Background Concentration (ppb)	Total (ppb)	NAAQS (ppb)
O ₃	8-Hour	2.59	63.00	65.59	70.00

The O₃ concentration levels would not exceed the 70 ppb 2015 Ozone NAAQS, so the FG LA project passes the 8-hour Ozone Cumulative Impact Analysis – Second Tier test and is deemed not to cause or contribute to a violation of the 2015 Ozone NAAQS.

Attachment 2

Excerpt

**Application for Prevention of Significant Deterioration
(PSD) Review and Issuance of a Permit to Install (PTI) for a
Proposed Hot Briquetted Iron (HBI) / Direct Reduced Iron
(DRI) Project (Toledo HBI), Toledo, Ohio**

IronUnits LLC

Submitted to:

**City of Toledo
Division of Environmental Services
348 S. Erie St.
Toledo, OH 43604**

**Ohio Environmental Protection Agency
Division of Air Pollution Control
P.O. Box 1049
Columbus, OH 43216-1049**

Prepared by:



**RTP Environmental Associates, Inc.
304-A West Millbrook Rd.
Raleigh, NC 27609**

September 2017 (updated November 2017)

6. Ambient Air Quality Impacts Analysis

This section presents a summary of the PSD required ambient air quality impacts analysis. The full modeling report, including detailed information regarding model selection, receptor location, and modeling procedures, are included as Appendix E. As described in subsection 4.1.2.4, the proposed Project will be ‘significant’ for PM, PM10, PM2.5, NOx, CO, and GHGs. Based on historical precedence, and U.S. EPA’s guidance, impacts analysis is not required for PM and GHGs.^{77 78} This section addresses impacts of other pollutants for which the area is attainment or unclassifiable.

6.1 Emissions Rates for Modeling Purposes

The emissions rates used for modeling purposes represent the worst case short term and long term rates for each of the proposed units. These rates are presented in section 3, Appendix C, and Appendix E of this application. As previously noted, consistent with OEPA guidance, emissions from the proposed intermittent operations (emergency engines and flaring during process upset/startup/shutdown) are not included for demonstrating compliance with short term national ambient air quality standards (NAAQS). In addition, for HBI rail loading that occurs over one shift, the emission rate was averaged for 24-hours for demonstrating compliance with the 24-hour PM10 and PM2.5 NAAQS.

6.2 Summary of Class II Modeled Impacts

This section presents the modeling results for the propose HBI Facility for Class II areas.

6.2.1 Class II Significant Impacts Analysis

Emissions from the proposed project are modeled in accordance with the modeling protocol submitted in August 2017 and the follow-up discussions and submittals. The resulting ambient impacts are compared with the Class II significant impact levels (“SILs”) codified at OAC 3745-31-23 and issued by the U.S. EPA in 40 CFR § 51.165(b)(2) or by guidance. In accordance with the OEPA and U.S. EPA’s procedures, if the maximum ambient impacts from the project are below the particular SIL, the project is presumed to neither cause nor contribute to a violation of the NAAQS or PSD increment for that pollutant. Pollutants with impacts that exceed the SIL, will be included in both the NAAQS and increment analyses. Table 6-1 presents the Class II significant impacts analyses for the proposed Project.

⁷⁷ 75 Fed. Reg. 31514, June 3, 2010, page 31520.

⁷⁸ In a March 2011 permitting guidance issued by the U.S.EPA, it observed that “[s]ince there are no NAAQS or PSD increments for GHGs, the requirements .. to demonstrate that a source does not cause or contribute to a violation of the NAAQS is not applicable to GHGs. Thus, we do not recommend that PSD applicants be required to model or conduct ambient monitoring for CO₂ or GHGs.” [footnotes omitted] *PSD and Title V Permitting Guidance for Greenhouse Gases*, EPA-457/B-11-001, March 2011, at pages 47-48.

Table 6-1. Class II Significant Impact Analysis Result

Pollutant	Average	Model Conc. ($\mu\text{g}/\text{m}^3$)	SIL ($\mu\text{g}/\text{m}^3$)	% SIL
NO ₂	1-HR	9.9	7.5	132%
	ANNUAL	0.89	1.0	89%
CO	1-HR	335	2000	17%
	8-HR	128	500	26%
PM10	24-HR	21.13	5.0	423%
	ANNUAL	2.59	1.0	259%
PM2.5	24-HR	6.29	1.2	524%
	ANNUAL	1.09	0.3	365%

For the proposed Project, predicted impacts exceed the applicable SIL for NO₂ 1-hour NAAQS and PM10 and PM2.5 NAAQS for all averaging periods. Therefore, these criteria pollutants were further analyzed for cumulative modeling that includes nearby sources. For all other pollutant-averaging time combinations, the project impacts are below the SIL.

6.2.2 Summary of NAAQS Analysis

The NAAQS analyses results are presented below. The modeling analyses were performed using AERMOD. Table 6-2 presents the NAAQS analyses for the proposed Project that exceed the SIL.

Table 6-2. NAAQS Analysis Result

Pollutant	Average	Model Conc. ($\mu\text{g}/\text{m}^3$)	Background ($\mu\text{g}/\text{m}^3$)	Total ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)	Notes
NO ₂	1-HR	133.98	75.6	209.6	188	<i>Project impact insignificant as paired in time and space.</i>
PM2.5	24-HR	47.3	22.6	69.9	35	<i>Project impact insignificant as paired in time and space.</i>
	ANNUAL	3.05	8.64	11.7	12	<i>Below NAAQS</i>
PM10	24-HR	122.46	22	145.5	150	<i>Below NAAQS</i>

The Project impacts for PM2.5 annual standard and PM10 are below the applicable NAAQS. The modeled 1-hour NO₂ and PM2.5 24-hour standard impacts exceed the NAAQS. However, as explained in Appendix E, the modeled 1-hour NO₂ and 24-hour PM2.5 exceedances are attributable to existing offsite sources that were modeled as part of the off-site inventory and not caused by the proposed HBI Facility. The maximum Project impacts at any of the receptor with existing

exceedance are well below the SIL for that criteria pollutant. Therefore, the Project will not cause or contribute to the violation of the 1-hour NO2 NAAQS or the 24-hour PM2.5 NAAQS.

6.2.3 Class II PSD Increment Analysis

PM10 and PM2.5 increment analyses were conducted for the proposed Project. Table 6-3 presents the increment analyses for the proposed Project. The increment analysis addressed the requirement both for overall impacts to be below the applicable increment and project impacts to be below the 83% of increment for the projects located at brownfield sites

Table 6-3. Increment Analysis Result

Pollutant	Average	Case	Model Conc. (µg/m ³)	Standard (µg/m ³)	Notes
PM2.5	24-HR	All Sources	6.95	9.0	Cumulative impacts
		HBI Only	6.27	7.5	Project <83% of Increment
	Annual	All Sources	1.29	4.0	Cumulative impacts
		HBI Only	1.15	2.0	Project <50% of Increment.*
PM10	24-HR	All Sources	27.0	30.0	Cumulative impacts
		HBI Only	17.7	24.9	Project <83% of Increment
	Annual	All Sources	4.7	17.0	Cumulative impacts
		HBI Only	2.6	8.5	Project <50% of Increment.*
* For the cases where project impacts are below the 50% of increment, per OEPA Engineering Guide 69 additional comparison with 83% of the increment is not necessary.					

The increment analysis shows that modeled concentration for the Project are below the applicable Class II increment thresholds.

6.2.4 Visibility Analysis in Class II Areas

A visibility analysis for the proposed Project impacts on the Class II areas is conducted using the VISCREEN model. Results of this analysis are presented in Appendix E. This analysis indicates that the Project impacts will not exceed the visibility screening criteria. The Project therefore will not adversely affect visibility at the Cuyahoga Valley National Park.

Attachment 3

Excerpt

Illinois Environmental Protection Agency
Bureau of Air, Permit Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Project Summary for a
Construction Permit Application from
Christian County Generation, LLC for the
Taylorville Energy Center
Christian County, Illinois

Site Identification No.: 021060ACB
Application No.: 05040027
Date Received:

Schedule:

Public Comment Period Begins: October 17, 2011
Public Hearing: December 1, 2011
Public Comment Period Closes: December 31, 2011

Illinois EPA Contacts:

Permit Analyst: Robert Smet
Community Relations Coordinator: Brad Frost

EPA for BACT determinations. An important resource for BACT determinations is USEPA's *RACT/BACT/LAER Clearinghouse* (Clearinghouse), a national compendium of control technology determinations maintained by USEPA. Other documents that are consulted include general information in the technical literature and information on other similar or related projects that are proposed or have been recently permitted.

A demonstration of BACT for units at the source subject to PSD was provided in the Application and the proposed determinations of BACT by the Illinois EPA are discussed in Attachment 1. The draft permit includes proposed BACT limits for emissions of pollutants that are subject to PSD, including greenhouse gases. The proposed limits have generally been determined by the Illinois EPA based on the following:

- The information provided by Christian County Generation in the Application;
- The demonstrated ability of similar equipment to meet the proposed emission limits or control requirements;
- Compliance periods associated with limits that are consistent with those used by USEPA in recent revisions to NSPS and NESHAP regulations for new emission units at similar affected facilities;
- Emission limits that account for normal operational variability based on the equipment and control equipment design, when properly operated and maintained; and
- Review of emission limits set for other coal gasification plants, as identified in USEPA's *RACT/BACT/LAER Clearinghouse*, PSD permits, and permit applications for these similar facilities.

B. Air Quality Analyses And Other Impact Analyses

The PSD rules also require that analyses of the potential air quality impacts and certain other potential impacts of the proposed plant be conducted for the proposed plant. These analyses and their results are discussed in Section VI below.

VI. AIR QUALITY AND OTHER IMPACT ANALYSES

A. Introduction to Air Quality Analysis

Emission standards and limits address the quantity or rate of pollutants emitted by a source, as they are released to the atmosphere from various emission units at a source. Standards are set limiting the amount of these emissions as a means to address the presence of contaminants in the air. The quality of air that people breathe is known as ambient air quality. Ambient air quality considers the emissions from a particular source after they have dispersed following release from a stack or other emission point, in combination with pollutants emitted from other nearby sources, mobile sources such as cars and trucks, and "background" pollutant levels. The level of pollutants in ambient air is typically expressed in terms of the concentration of the pollutant in the air. One form of this expression is parts per million. A more common scientific form is in micrograms per cubic meter, millionths of a gram of a pollutant in one cubic meter of air.

The USEPA has established standards for the level of various pollutants in the ambient air. These ambient air quality standards are based on a broad

collection of scientific data to define levels of ambient air quality where adverse human health impacts and welfare impacts may occur. As part of the process of adopting air quality standards, the USEPA compiles scientific information on the potential impacts of the pollutant into a "criteria" document. Hence the pollutants for which air quality standards exist are known as criteria pollutants. Based upon the nature and effects of a pollutant, appropriate numerical standards(s) and associated averaging times are set to protect against adverse impacts. For some pollutants several standards are set, for others only a single standard has been established.

Areas can be designated as attainment or nonattainment for criteria pollutants, based on the existing air quality. In an attainment area, like Christian County, the goal is to generally preserve the existing clean air resource and prevent increases in emissions which would result in nonattainment. In a nonattainment area, efforts must be taken to reduce emissions to come into attainment. An area can be attainment for one pollutant and nonattainment for another.

Compliance with air quality standards is determined by two techniques, monitoring and modeling. In monitoring, one actually samples the levels of pollutants in the air on a routine basis. This is particularly valuable as monitoring provides data on actual air quality, considering actual weather and source operation. The Illinois EPA operates a network of ambient air monitoring stations across the state.

Monitoring is limited because one cannot operate monitors at all locations. One also cannot monitor to predict the effect of a future source, which has not yet been built, or to evaluate the effect of possible regulatory programs to reduce emissions. Modeling is used for these purposes. Modeling uses mathematical equations to predict ambient concentrations based on various factors, including the height of a stack, the velocity and temperature of exhaust gases, and weather data (speed, direction and atmospheric mixing). Modeling is performed by computer, allowing detailed estimates to be made of air quality impacts over a range of weather data. Modeling techniques are well developed for essentially stable pollutants like particulate matter and CO, and can readily address the impact of individual sources. Modeling techniques for reactive pollutants, e.g., ozone, are more complex and have generally been developed for analysis of entire urban areas. They are not applicable to a single source with small amounts of emissions.

Air quality analysis is the process of predicting ambient concentrations in an area or as a result of a project and comparing the concentration to the air quality standard or other reference level. Air quality analysis uses a combination of monitoring data and modeling as appropriate.

B. Air Quality Analysis for NO₂, SO₂, PM and CO

An ambient air quality analysis was conducted by a consulting firm, Trinity Consultants, on behalf of Christian County Generation to assess the impacts of the proposed plant on ambient air quality for NO₂, SO₂, PM and CO. Under the PSD rules, this analysis must demonstrate that the proposed project will not cause or contribute to a violation of any applicable air quality standard or PSD increment. The results of this analysis are summarized in Tables 1 through 3.

The starting point for determining the extent of the modeling necessary for the proposed plant was evaluating whether it would have a "significant impact." The PSD rules identify Significant Impact Levels, which represent thresholds triggering a need for more detailed modeling. These thresholds are specified for all criteria pollutants, except ozone and lead. The significant impact levels do not correlate with health or welfare thresholds for humans, nor do they correspond to a threshold for effects on flora or fauna. For pollutants for which impacts were above the significant impact level, modeling was done incorporating proposed new emissions units at the proposed plant and significant stationary sources in the surrounding area.

Table 1: Preliminary Impact Analysis
(Significant Impact Assessment)

Pollutant	Averaging Period	Maximum Modeled Impact ($\mu\text{g}/\text{m}^3$)	Significant Impact Level ($\mu\text{g}/\text{m}^3$)
NO ₂	1-Hour ^b	149	7.5
	Annual ^a	0.56	1
SO ₂	1-Hour ^b	354	7.8
	3-Hour ^a	223	25
	24-Hour ^a	40.2	5
	Annual ^a	1.32	1
PM ₁₀	24-Hour ^a	31.2	5
	Annual ^a	4.80	1
PM _{2.5}	24-Hour ^b	4.75	1.2
	Annual ^b	0.77	0.3
CO	1-Hour ^a	3,129	2,000
	8-Hour ^a	736	500

Notes:

- a. Highest 1st high value based upon individual evaluation of each year of a 5-year meteorological dataset.
- b. Five-year average of the 1st high value based upon evaluation of a 5-year meteorological dataset.

The preliminary impact analysis showed maximum concentrations for NO₂ (1-hour average only), SO₂, PM₁₀, PM_{2.5}, and CO that are greater than applicable significant impact levels. This triggered further analysis with modeling of both the emissions of the proposed plant and the emissions of existing sources in the area. Background levels of air quality, as determined at ambient monitoring stations operated by the Illinois EPA and Missouri Department of Natural Resources, were also included in the final results for the NAAQS analysis. These full impact analyses yielded modeled concentrations that were in compliance with the applicable PSD increments and the NAAQS, as shown Tables 2 and Table 3, respectively.

Table 2: PSD Increment Consumption Modeling Results

Pollutant	Averaging Period	PSD Increments ($\mu\text{g}/\text{m}^3$)	Maximum Concentration ($\mu\text{g}/\text{m}^3$)
SO ₂	3-Hour	512	143 ^a
	24-Hour	91	33.1 ^a

	Annual	20	2.21 ^b
PM ₁₀	24-Hour	30	74.7 ^{a,c}
	Annual	17	17 ^b
PM _{2.5}	24-Hour	9	4.84 ^a
	Annual	4	0.83 ^b

Notes

- Highest 2nd high value based upon individual evaluation of each year of a five year meteorological dataset.
- Highest 1st high value based upon individual evaluation of each year of a five year meteorological dataset.
- The 24-hr PM₁₀ increment "cause or contribute" analysis revealed no modeled receptor-events during which the increment was exceeded and the plant's modeled impacts were above the SIL, so the plant will not cause or contribute to an exceedance of the 24-hr PM₁₀ increment. The maximum 2nd high or above 24-hr PM₁₀ PSD Increment impact among the five years modeled from the cause or contribute analysis, after excluding the exceedances for which Christian County Generation demonstrated that the plant will not produce an impact above the SIL, is 29.97 µg/m³ which is less than the 24-hr PM₁₀ PSD Increment.

Table 3: NAAQS Modeling Results

Pollutant	Averaging Period	NAAQS (µg/m ³)	Background Concentration (µg/m ³)	Max. Modeled Concentration (µg/m ³)	Total Concentration (µg/m ³)
NO ₂	1-Hour ^{a,f}	188	28.9 ⁱ	256	285
SO ₂	1-Hour ^{b,g}	196	49.8 ^j	150	200
	3-Hour ^c	1,300	189.8 ^j	144	334
	24-Hour ^c	365	20.9	33.2	54.1
	Annual ^d	80	5.3	9.97	15.3
PM ₁₀	24-Hour ^{c,h}	150	49 ^k	137	186
PM _{2.5}	24-Hour ^e	35	28.0 ^l	5.79	33.8
	Annual ^e	15	11.6 ^l	0.82	12.4
CO	1-Hour ^c	40,000	4,914 ^m	3,048	7,962
	8-Hour ^c	10,000	1,667 ^m	526	2,193

Notes

- Evaluated five-year average 8th high 1-hour concentrations as a conservative approximation of the five-year average 8th highest daily maximum 1-hour output for comparison against the NAAQS.
- Evaluated five-year average 4th high 1-hour concentrations as a conservative approximation of the five-year average 4th highest daily maximum 1-hour output for comparison against the NAAQS.
- Highest 2nd high value based upon individual evaluation of each year of a 5-year meteorological dataset.
- Highest 1st high value based upon individual evaluation of each year of a 5-year meteorological dataset.

- e. Evaluated five-year average 1st high 24-hour and annual concentrations in accordance with USEPA guidance.
- f. The "cause or contribute" analysis for the 1-hr NO₂ NAAQS revealed no modeled receptor-events during which this NAAQS was exceeded and plant's modeled impacts were above the SIL, so the plant will not cause or contribute to an exceedance of this NAAQS. The maximum five-year average 8th high or above daily maximum 1-hr NO₂ NAAQS impact from this cause or contribute analysis after excluding the exceedances for which Christian County Generation has demonstrated the plant will not have an impact above the SIL is 187.6 µg/m³ which is below the 1-hr NO₂ NAAQS.
- g. The cause or contribute analysis for the 1-hr SO₂ NAAQS revealed no modeled receptor-events during which this NAAQS was exceeded and the plant's modeled impacts were above the SIL, so the plant will not cause or contribute to an exceedance of this NAAQS. The maximum five-year average 4th high or above daily maximum 1-hr SO₂ NAAQS impact from this cause or contribute analysis after excluding the exceedances for which Christian County Generation has demonstrated the plant will not have an impact above the SIL is 194.1 µg/m³, which is below the 1-hr SO₂ NAAQS.
- h. The cause or contribute analysis for the 24-hr PM₁₀ NAAQS revealed no modeled receptor-events during which the NAAQS was exceeded and the plant's modeled impacts were above the SIL, so the plant will not cause or contribute to an exceedance of this NAAQS. The maximum 2nd high or above 24-hr PM₁₀ NAAQS impact among the five years modeled from this cause or contribute analysis after excluding the exceedances for which Christian County Generation has demonstrated the plant will not have an impact above the SIL is 149.4 µg/m³ which is below the 24-hr PM₁₀ NAAQS.
- i. Based on NO₂ ambient monitoring data from Bonne Terre, Ste. Genevieve County, Missouri (Site ID 291860005) for the three year period from 2007 to 2009. Background concentration is the three-year average from 2007 to 2009 of the 98th percentile 1-hour daily maximum concentrations.
- j. Based on SO₂ ambient monitoring data from Nilwood, Illinois (Site ID 171170002-1). Background concentration for 1-hr modeling is the three-year average from 2007 to 2009 of the 99th percentile 1-hour daily maximum concentrations. Background concentration for the 3-hr and 24-hr modeling are the highest second high value recorded from among the three year period from 2006 to 2008, and the background concentration for the annual modeling is the highest annual average monitor value from 2006 to 2008.
- k. Based on PM₁₀ ambient monitoring data from Nilwood, Illinois (Site ID 171170002-1) for the three year period from 2006 to 2008. Background concentration for 24-hour average is the fourth high from the three year period, since the 24-hr average PM₁₀ NAAQS is not to be exceeded more than three times in three consecutive years.
- l. Based on PM_{2.5} ambient monitoring data from the State Fairgrounds site in Springfield, Illinois (Site ID 171670012-1) for the three year period from 2007 to 2009. Background concentration for 24-hr average is the 98th percentile of 24-hr average concentrations in a given year averaged over the three year period from 2007 to 2009. The background concentration for the annual average is annual arithmetic mean averaged over three years.

m. Based on CO ambient monitoring data from the downtown site in Springfield, Illinois (Site ID 171670008) for the three year period from 2006 to 2008. Since the 1-hr and 8-hr CO NAAQS are not to be exceeded more than once per year, the background concentrations were set to the highest second high monitor value from 2006 to 2008.

C. Ozone Ambient Impact Analysis

Elevated ground-level ozone concentrations are the result of photochemical reactions among various pollutants. These reactions are more likely to occur under certain weather conditions (e.g., high temperatures, light winds, and sunny conditions). The pollutants that contribute to ozone formation, referred to as ozone precursors, include NO_x and VOM emissions from both anthropogenic (e.g., mobile and stationary sources) and natural sources (e.g., vegetation). While the proposed plant will not directly emit ozone, it will emit more than 100 tons per year of NO_x. Christian County Generation was, therefore, required to conduct an analysis for ozone as part of the PSD air quality analysis. This analysis addressed potential local and downwind impacts from the plant on air quality for ozone.

Christian County Generation conducted the required ozone analysis by examining local impacts based on a quantitative approach using the Screening Method calculations recommended by Illinois EPA. This method uses conservative screening tables in lieu of source-specific photochemical modeling or other quantitative ozone impact analysis procedures. In addition, evaluating compliance with the previously revoked 1-hr ozone NAAQS (i.e., 0.12 ppm which is not to be exceeded more than 3 times in 3 consecutive years) by adding source-specific 1-hr ozone concentrations predicted using the screening tables to a representative 1-hr ozone background serves as a surrogate for evaluating compliance with the newer 8-hour average NAAQS (i.e., 0.075 ppm evaluated as the 3-year average of annual fourth highest daily maximum 8-hr ozone concentrations).

Christian County Generation first determined the expected 1-hour average ozone impact resulting from the plant using the rural VOC/NO_x Point Source Screening Tables and the plant's potential NO_x and VOM emission rates.¹⁰ Based on this screening estimate, the expected 1-hr average ozone impact for the plant is 0.020 ppm. This impact was added to the 1-hr average ozone background concentration of 0.089 ppm (based on the fourth highest 1-hr average concentration monitored at the Nilwood site over the three year period from 2006 to 2008) to provide a cumulative 1-hr average design concentration of 0.109 ppm. The 1-hr average design concentration (0.109 ppm) was determined to be less than the 1-hr average ozone NAAQS (0.12 ppm). Therefore, the plant is not expected to cause or contribute to a violation of the ozone NAAQS.

D. Vegetation and Soils Analysis

An applicant for a PSD permit is required to conduct an analysis of the potential impairment to soils and vegetation that may occur as a result of a proposed major project. Christian County Generation evaluated potential impacts on soils and vegetation from VOM and sulfur, nitrogen, and PM deposition in addition to direct phytotoxic effects of the modeled

¹⁰ Scheffe, Richard, USEPA, *VOC/NO_x Point Source Screening Tables*, September 1988.

Attachment 4

Excerpt

TECHNICAL FACT SHEET

July 12, 2018

Purpose and Summary

The Michigan Department of Environmental Quality, Air Quality Division (AQD), is proposing to act on Permit to Install (PTI) application No. 1-18 from The Regents of the University of Michigan (U of M). The application is for the proposed installation and operation of a new natural gas-fired combined combustion turbine heat and power (CHP) unit at their existing Central Power Plant. The proposed project is subject to permitting requirements of the Department's Rules for Air Pollution Control and state and federal Prevention of Significant Deterioration (PSD) regulations. Prior to acting on this application, the AQD is holding a public comment period and a public hearing, if requested in writing, to allow all interested parties the opportunity to comment on the proposed PTI. All relevant information received during the comment period and hearing if held, will be considered by the decision maker prior to taking final action on the application.

Background Information

U of M is a large public university located in Ann Arbor, Michigan. Its primary purposes are undergraduate and graduate level education and research, which are supported by a wide variety of services and infrastructure, including the operation and maintenance of over 600 buildings situated on 5 campuses.

The Central Power Plant currently supplies the heating, cooling, and electrical needs of a significant portion of the buildings on the Central Campus and the Medical Campus through the operation of five existing large natural gas/oil-fired boilers, three existing electrical generating steam turbines, and two existing cogeneration/combined cycle systems consisting of two electrical generating gas-fired turbines and two connected heat recovery boilers. The existing turbines are equipped with water injection to reduce nitrogen oxides (NO_x) emissions.

The intended purpose of the new CHP unit is to expand and supplement U of M's ability to generate electricity and steam to serve campus needs. U of M has a "overall sustainability goal of reducing greenhouse gas (GHG) emissions by effectively replacing electricity that would otherwise be provided by Detroit Edison's (DTE) mostly coal-fired power generation fleet."

There are multiple existing permitted sources of emissions at U of M. The entire campus is considered a single stationary source for air permitting purposes.

Proposed Equipment and Present Air Quality

The proposed unit is Solar Titan 130E CHP that will be comprised of a single combustion turbine generator (CTG) exhausting to a dedicated heat recovery steam generator (HRSG). The CTG will primarily fire natural gas but will be capable of firing ultra-low sulfur diesel (ULSD) as a backup fuel for up to 500 hours per year. The HRSG will be a dual-pressure unit designed to maximize thermal efficiency and will be equipped with a duct burner to provide supplemental duct-firing capability. Selective catalytic reduction (SCR) will be installed to control NO_x emissions. NO_x emissions from the turbine will also be reduced by burning lean premixed fuel and stabilizing the air/fuel mixture. The new CHP unit will be exhausted to existing stacks at the Central Power Plant.

U of M is located in Washtenaw County which is currently meeting all of the National Ambient Air Quality Standards (NAAQS) set by the United States Environmental Protection Agency (USEPA). The USEPA posted ozone non-attainment designations to the Federal register on June 4, 2018, which designated Washtenaw County as non-attainment effective August 3, 2018. The other air quality standards are for particulate matter equal to or less than 10 microns in diameter (PM10), particulate matter equal to or less than 2.5 microns in diameter (PM2.5), sulfur dioxide (SO₂) carbon monoxide (CO), nitrogen dioxide (NO₂), and lead. All of the standards are set at levels designed to protect the public health.

Pollutant Emissions

As U of M is considered major under the PSD regulations, the CHP unit will be subject to PSD for each regulated pollutant whose potential emissions exceed the significant emission rate (SER). The CHP unit would have also been subject to major nonattainment new source review (NSR) for ozone if the potential emissions of NO_x and/or volatile organic compounds (VOC) exceeds their respective significance levels which it did not. The following table provides the estimated emissions for each regulated pollutant from the proposed project and their respective SER:

Table 1: Project Potential Emissions Summary

Pollutant	Estimated Emissions Tons per year (tpy)*	PSD Significant Emission Rate (tpy)	Subject to PSD/Nonattainment NSR?
NO _x	36	40	No
CO	94	100	No
Particulate Matter (PM)	16	25	No
PM10	16	15	Yes
PM2.5	16	10	Yes
SO ₂	0.7	40	No
Lead	0.0009	0.6	No
VOCs	20	40	No
Sulfuric Acid Mist (H ₂ SO ₄)	0.02	7	No
Greenhouse Gases (GHGs) as Carbon Dioxide Equivalents (CO ₂ e)**	155,597	75,000	Yes
* These emissions include startup and shutdown operation for the CHP. ** A recent decision by the Supreme Court (Utility Air Regulatory Group v. U.S. EPA), No. 12-1146 (June 23, 2014) determined that PSD review for GHGs is only required if one or more of the other regulated new source review pollutants exceeds a PSD threshold.			

Key Permit Review Issues

Staff evaluated the proposed project to identify all state rules and federal regulations which are, or may be, applicable. The tables in Appendix 1 summarize these rules and regulations.

- **Prevention of Significant Deterioration (PSD) Regulations** – Based on the potential emissions, the project is subject to PSD review for PM10, PM2.5, and GHGs. Review under the PSD regulations requires Best Available Control Technology (BACT), a source impact analysis, an air

quality impact analysis, and an additional impact analysis for each regulated air pollutant for which the project will result in significant emissions. The PSD major source threshold is 250 tpy for each of the regulated pollutants unless the source is one of 28 source categories listed in the PSD regulations, then the PSD major source threshold is 100 tpy. Once a source is major for a single regulated new source review pollutant, it is major for other regulated new source review pollutants at their significant level. The emissions associated with the proposed project are summarized in Table 1 above.

The BACT review determined specific emission limits for both particulate and greenhouse gas emissions. A summary of the BACT analysis and the specific BACT emission limits is addressed in Appendix 2.

- **Minor/Major Modification Determination for Attainment Pollutants** – The facility is an existing PSD major stationary source. A modification at the facility where the emissions of any regulated pollutant will increase by more than the significant level for that pollutant results in the modification being subject to PSD requirements for that pollutant. U of M is located in Washtenaw County which is currently in attainment for all pollutants. The USEPA posted ozone non-attainment designations to the Federal register on June 4, 2018, which designated Washtenaw County as non-attainment effective August 3, 2018. The proposed project is subject to PSD because the emission increase for PM₁₀, PM_{2.5}, and GHGs are each more than their respective significant level. Please refer to Table 1 above for a summary of the proposed emissions of each regulated pollutant.
- **Minor/Major Modification Determination for Nonattainment Pollutants** – The facility is in Washtenaw County which will be nonattainment for ozone on August 3, 2018. An increase in NO_x or VOC emissions above their respective 40 tpy significant levels would result in the proposed project being subject to major nonattainment NSR for ozone. The proposed emissions of NO_x and VOCs from the project are 36 tpy and 20 tpy respectfully which is less than their significant emission rate of 40 tpy each. Therefore, the proposed project is not subject to major nonattainment NSR for ozone.
- **Federal NSPS Regulations** – New Source Performance Standards (NSPS) were established under Title 40 of the Code of Federal Regulations (40 CFR) Part 60. The proposed CTG/HRSG train including the duct burners are subject to the NSPS for Standards of Performance for Stationary Combustion Turbines, 40 CFR Part 60 Subpart KKKK. Subpart KKKK contains a NO_x emission limit, a sulfur fuel content restriction, and associated compliance requirements. If the CTG is associated with HRSGs or duct burners, then the entire CTG/HRSG train must comply with the NO_x emission limit.

Due to the output of the CTG/HRSG unit, 40 CFR Part 60 Subpart TTTT - NSPS for Greenhouse Gas Emissions for Electric Generating Units does not apply.

- **Rule 224 TBACT Analysis** – Michigan Air Pollution Control Rule R 336.1224 requires Best Available Control Technology for toxics (TBACT). However, the requirements of Rule 224 do not apply to any process subject to a federal NESHAP. In addition, the requirements of Rule 224 do apply to toxic air containments (TACs) that are particulates or VOCs and are in compliance with BACT. All proposed equipment underwent a top-down BACT analysis for PM₁₀ and PM_{2.5} and a State of Michigan BACT analysis under Rule 702 for VOCs. As such the only TACs that were not covered through the a BACT review were ammonia and H₂SO₄.

Ammonia is released during potential ammonia slip from the SCR process utilized for NO_x control on the CHP unit. U of M stated that TBACT for reduction of ammonia slip is proper operation and maintenance of the SCR system, and the AQD concurred with this determination.

H₂SO₄ is formed as a result of the reaction of sulfur trioxide (SO₃) with water, either in the flue gas stream or in the atmosphere after discharge. SO₃ is formed as a result of the thermal oxidation of sulfur compounds in the fuel. The use of low sulfur fuels reduces the emissions of H₂SO₄. The facility proposes that TBACT for the proposed unit is met by burning ULSD and natural gas with sulfur content limits for both fuels. The AQD concurred with this determination.

- **Rule 225 Toxics Analysis** – The Michigan Air Pollution Control Rules require the ambient air concentration of TACs be compared against health-based screening levels. The AQD staff reviewed U of M's air quality modeling and evaluation of TAC impacts. The review found that all TACs show impacts less than 25 percent of their respective established health-based screening levels and will comply with the requirements of Rule 225.
- **Rule 702 VOC Emissions** – This rule requires an evaluation of the following four items to determine what will result in the lowest maximum allowable emission rate of VOCs:
 - a. BACT or a limit listed by the department on its own initiative
 - b. New Source Performance Standards (NSPS)
 - c. VOC emission rate specified in another permit
 - d. VOC emission rate specified in the Part 6 rules for existing sources

A BACT analysis was performed by U of M to demonstrate compliance with Rule 702. The technically feasible options for reducing VOC emissions were good combustion controls and the use of an oxidation catalyst. Good combustion controls include optimizing the air to fuel ratio, use of gaseous fuels for good mixing, and good equipment design. The oxidation catalyst was eliminated as BACT due to economic infeasibility. Specific VOC emission limits and good combustion controls were determined to represent BACT under Rule 702(a).

- **Criteria Pollutants Modeling Analysis** – Computer dispersion modeling was performed to predict the impacts of air emissions from PM₁₀, PM_{2.5}, and NO_x. NO_x refers specifically to nitrogen oxide and NO₂, with the larger portion being NO₂. NO₂ is a highly reactive gas and is the pollutant for which the USEPA established a NAAQS. For this modeling demonstration, NO_x was assumed to be 100 percent NO₂, which is a conservative evaluation. Emissions from the proposed facility were evaluated against both the NAAQS and the PSD Increments. The NAAQS are intended to protect public health. The PSD Increments are intended to allow industrial growth in an area, while ensuring that the area will continue to meet the NAAQS.

To determine the predicted impacts, the dispersion modeling compared the worst-case impact for each criteria pollutant, for each averaging time and exhaust scenario, to the maximum levels allowed. The emissions were calculated based upon performance data for the different fuels at several load points over a range of temperatures. The models were run at worst-case scenarios on an hourly basis for the short-term averaging period analysis. To consider all the possible operating scenarios, for annual averaging period analysis, modeling runs were formulated for three scenarios:

- Running continuously on an annual basis on natural gas
- Running continuously on an annual basis on ULSD (although 500 hr limit proposed)
- Running 8,215 hours on natural gas, 500 hours on fuel oil, with 45 hours of startup/shutdown operations

The first step in this evaluation is to determine the predicted impacts from the proposed project. After the impacts are determined, they are compared to the applicable PSD Significant Impact Levels (SILs). If the project impacts are less than the SIL, then no further review is required. The following table considers the potential emissions from the proposed project for NO_x, PM₁₀, and PM_{2.5} and compares them to their respective SILs.

Table 2: Significant Impact Levels (SIL)

Pollutant	Averaging Period	SIL (ug/m ³)	Total Maximum Impact (ug/m ³)	Below SIL?
NO _x	1-Hour	7.5	5.34	Yes
	Annual	1	0.39	Yes
PM ₁₀	24-Hour	5	1.38	Yes
	Annual	1	0.09	Yes
PM _{2.5}	24-Hour	1.2	0.93	Yes
	Annual	0.3	0.08	Yes

As the modeled impacts for all three pollutants are below their respective SILs, facility-wide NAAQS and PSD Increment modeling analysis was not required. In order to achieve the SIL modeling results shown in Table 2 when ULSD is burned, the duct burners cannot be operated, and the exhaust cannot be routed to the south stack. Conditions are included to the draft permit to assure that these requirements will be achieved.

Preconstruction monitoring is required for at least one year for each criteria pollutant proposed to be emitted that triggers PSD review. Through guidance, the USEPA allows the use of existing regional data, if representative, as an alternative to the preconstruction monitoring. U of M requested to use existing data and to receive a waiver from preconstruction monitoring. The AQD determined that the data is representative and granted the waiver request.

- Additional Impact Analysis** – An additional impact analysis is required for new major sources pursuant to 40 CFR Part 52.21(o) and Michigan Air Pollution Control Rule 336.2815. This analysis is necessary to evaluate the impacts from the proposed project for soils, vegetation, visibility and growth.

The proposed project emissions are not anticipated to have a negative impact on soils, vegetation, wildlife, or visibility, and to have minimal impact on growth once construction is completed.

Soils, Vegetation, and Wildlife

The secondary NAAQS have been determined by the USEPA to be protective of soils, vegetation, and wildlife. U of M evaluated the secondary NAAQS using dispersion modeling. All PSD pollutants with secondary NAAQS were below their respective SILs and thus below respective NAAQS. Toxics were evaluated through the TAC analysis required in Michigan Air Pollution Control Rule 336.1225. This evaluation showed that the impacts from the project are below their respective health-based screening levels.

Attachment 5

Excerpt

**The Regents of the University of Michigan
Central Power Plant**

RESPONSE TO COMMENTS DOCUMENT

August 23, 2018

PERMIT No. 1-18



Rick Snyder, Governor

**Air Quality Division
Michigan Department of Environmental Quality**

INTERNET: <http://www.michigan.gov/air>

Mary Ann Dolehanty, Director
Air Quality Division
Constitution Hall, 2nd Floor, South Tower
525 West Allegan Street
P.O. Box 30260
Lansing, Michigan 48909-7760
Phone: 1-800-662-9278
Fax: 517-335-3122

B. Dispersion ModelingComment

There were multiple comments involving the modeling performed for this project. In particular, the commenters believed that modeling did not properly address carbon dioxide (CO₂), methane, or other greenhouse gases. In addition, facility-wide National Ambient Air Quality standards (NAAQS) and Prevention of Significant Deterioration (PSD) Increment modeling should be done to reflect local meteorological conditions. There were also concerns involving the modeling of the worst-case scenario. Within the fact sheet it was stated that when Ultra-Low Sulfur Diesel (ULSD) is burned that the duct burners cannot be operated, and the exhaust cannot be routed to the south stack. This condition does not present the worst-case scenario.

AQD Response

CO₂ is not considered a criteria pollutant and therefore has no established ambient air health threshold. Therefore, it is not modeled as part of the comprehensive ambient air impact analysis.

Five years of hourly meteorology data from the Ann Arbor Municipal Airport was used. This site is located approximately 3 miles from the U of M campus and is considered representative of the local conditions. Refined modeling for NAAQS and PSD Increment was not necessary because the worst-case impacts for all criteria pollutants were below applicable Significant Impact Levels (SILs) and, per United States Environmental Protection Agency (USEPA) policy, are not considered to cause or contribute to any violations.

Worst case impacts were predicted for all emissions scenarios (i.e. start-up/shut-down, various load percentages, auxiliary boiler operations, normal turbine operations, different fuels, different ambient temperatures, etc). The maximum impact from all the scenarios was considered to be the overall worst-case impact and that impact was compared to applicable thresholds and published in the summary. By default, all other scenarios were not worst-case and not used for comparison to applicable thresholds.

Comment

There is a concern over the maximum impacts when modeling 24-hour particulate matter equal to or less than 2.5 microns in diameter (PM_{2.5}). The projected impacts are close to the SILs, which can pose a threat to patients at a nearby hospital.

AQD Response

The SIL is provided by the USEPA to determine which impacts will not cause or contribute to any violation. All modeled maximum impacts, for all potential emissions scenarios, were compared to the SIL threshold. If the SIL was not exceeded by the worst-case impact for any scenario, then impacts from that pollutant are not considered to cause or contribute to any violation anywhere on the modeled grid, including sensitive receptors.

The SILs are considered to be more restrictive than the corresponding NAAQS for the same pollutant. As the purpose of the NAAQS are to protect the health of all individuals, including the most sensitive ones, meeting the SILs also ensures that the health of all individuals will be protected.

C. Greenhouse Gases

Comment

Several comments were received indicating that natural gas combustion is not as climate-friendly as it is commonly expressed as and that the proposed plant would release a large amount of climate warming pollution, contributing to harm that is already affecting Michigan. Specifically, it was stated that the evaluation of carbon emissions should be done on a life-cycle basis rather than a power plant only basis. Literature was cited that more methane is leaked throughout the natural gas supply chain than previously estimated. Although gas produces fewer carbon emissions than coal when burned, the production, processing, storage, transmission, and distribution of gas results in large amounts of methane being emitted into the atmosphere. The MDEQ should require U of M to issue a new fact sheet accounting for methane leakage during natural gas production, storage, and distribution.

AQD Response

Evaluation of the origin of the fuel or the carbon emissions on a life-cycle basis is not part of the permit review process which the AQD implements. The AQD, as a regulatory agency, reviews proposals by applicants and compares them to the air quality rules and regulations in place.

However, U of M and the AQD did perform a Best Available Control Technology (BACT) analysis on the proposed Greenhouse gases (GHGs) from the new CHP unit. GHGs are considered a regulated pollutant under the PSD regulations. As the proposed emissions of GHGs from the new CHP unit will be above the significance value of 100,000 tons per year, the application was subject to PSD for GHGs. Recent permits issued by the AQD and a review of the USEPA's Reasonable Available Control Technology/Best Available Control Technology/Lowest Achievable Emission Rate (RACT/BACT/LAER) Clearinghouse shows the GHG BACT emission limits proposed by U of M are consistent with those found to be BACT for other similar sources and that the proposed emissions will meet all applicable regulatory requirements.

D. Emission Calculations

Comment

There is concern about the emission estimates for nitrogen oxides (NO_x) and carbon monoxide (CO). Those emissions are estimated just under PSD review. The AQD should state the assumptions made in those calculations including startup, shutdown, and malfunction events. In addition, there should be a confidence level or margin of error stated in those calculations.

AQD Response

In performing the emission calculations for this application U of M looked at several different operating scenarios. The scenario which would generate the greatest potential emissions was burning natural gas in the turbine with continuous duct burner firing for 8,215 hours per year;

Attachment 6

Excerpt

Preliminary Determination Summary

Permit Numbers 6825A, PSDTX49M1, and GHGPSDTX167

I. Applicant

The Premcor Refining Group, Inc.
PO BOX 909
PORT ARTHUR, TX, 77641-0909

II. Project Location

Port Arthur Refinery
1801 S. GULFWAY DR
Jefferson County
Port Arthur, Texas 77640

III. Project Description

The existing facility is designed to process crude oil into a variety of motor fuels, hydrocarbon products and derivatives. Jefferson County is currently designated as an attainment or unclassified area for all criteria pollutants. The Beaumont Terminal is a Title V major source. The purpose of the project is to authorize construction and operation of a new Delayed Coking Unit, a new Sulfur Recovery Unit, and other modifications to increase the crude capacity and throughput of the facility from 415,000 barrels per day to a nominal 430,000 barrels per day.

Premcor proposes the following improvements to the facility:

1. Construction of two 230.3 MMBtu/hr coker furnaces,
2. Increased coke storing and handling,
3. Construction of three new 420,000 barrel (bbl) external floating roof storage tanks for storing additional crude,
4. Construction of two 37,500 gallon vertical fixed roof (VFR) storage tanks for storage of sludge from the new coker unit,
5. Construction of a new wastewater collection system associated with the new coker unit
6. Installation of a new 417 long ton per day (LTPD) sulfur recovery unit and accompanying tailgas incinerator,
7. Construction of one new vertical fixed roof (VFR) storage tank to store liquid sulfur from the new sulfur recovery unit,
8. Additional fugitive components associated with the new construction,
9. Authorize maintenance, start-up, and shutdown activities for the new equipment, and
10. Modifications to various existing facilities within the refinery

Preliminary Determination Summary

Permit Numbers: 6825A, PSDTX49M1, and GHGPSDTX167

Page 7

Maintenance, Startup and Shutdown Activities

The permit requires the following controls to minimize VOC emissions during planned MSS activities.

- **Tank Floating Roof Landings:**

The vapor space under the floating roof must be routed to a control device during standing idle periods until the vapor space VOC concentration is 10,000 ppmv or less. The tank roof must be landed on its lowest legs unless tank entry is planned. Refilling must also be controlled if the product stored has a VOC vapor pressure of 0.5 psia or greater.

- **Vessels and piping components:**

All vessels must be completely drained of liquid prior to opening, and the vessel must be degassed to control when containing VOC vapor pressure of 0.5 psia or greater

- **Furnace/heater startup**

NO_x emissions may exceed emissions may exceed short term limits authorized for normal operation (0.15 lb NO_x/MMBtu) for periods not to exceed 8 hours (EPNs E-01-844, E-02-844 and E-02-943 only). CO emissions may exceed short term limits authorized for normal operation (500 ppmvd lbNO_x/MMBtu) for periods not to exceed 8 hours

VII. Air Quality Analysis

The air quality analysis (AQA) is acceptable for all review types and pollutants, as supplemented by the ADMT. The results are summarized below.

The air quality analysis (AQA) is acceptable, as supplemented by the ADMT, for all review types and pollutants. The results are summarized below

A. De Minimis Analysis

A De Minimis analysis was initially conducted to determine if a full impacts analysis would be required. The De Minimis analysis modeling results indicate that 8-hr CO exceeds the respective de minimis concentration and requires a full impacts analysis. The De Minimis analysis modeling results for 1-hr, 3-hr, 24-hr, and annual SO₂, 24-hr and annual PM₁₀, 24-hr and annual PM_{2.5} (NAAQS and Increment), 1-hr and annual NO₂, and 1-hr CO indicate that the project is below the respective de minimis concentrations and no further analysis is required.

The justification for selecting the EPA's interim 1-hr NO₂ and 1-hr SO₂ De Minimis levels was based on the assumptions underlying EPA's development of the 1-hr NO₂ and 1-hr SO₂ De Minimis levels. As explained in EPA guidance memoranda^{1,2},

¹ www.epa.gov/region07/air/nsr/nsrmemos/appwso2.pdf

¹ www.epa.gov/nsr/documents/20100629no2guidance.pdf

Preliminary Determination Summary

Permit Numbers: 6825A, PSDTX49M1, and GHGPSDTX167

Page 8

the EPA believes it is reasonable as an interim approach to use a De Minimis level that represents 4% of the 1-hr NO₂ and 1-hr SO₂ NAAQS.

The applicant provided an evaluation of ambient PM_{2.5} monitoring data, consistent with EPA guidance for PM_{2.5}³, for using the PM_{2.5} De Minimis levels in the NAAQS analysis. If monitoring data show that the difference between the PM_{2.5} NAAQS and the monitored PM_{2.5} background concentrations in the area is greater than the PM_{2.5} De Minimis level, then the proposed project with predicted impacts below the De Minimis level would not cause or contribute to a violation of the PM_{2.5} NAAQS and does not require a full impacts analysis. See the discussion below in the Air Quality Monitoring section for additional information on the evaluation of ambient PM_{2.5} monitoring data.

The applicant also provided an evaluation of ambient PM_{2.5} monitoring data for using the PM_{2.5} De Minimis levels in the PSD Increment analysis. If the difference between the PM_{2.5} increment and the change in ambient monitored PM_{2.5} background concentrations in the area is greater than the PM_{2.5} De Minimis level, then the use of the De Minimis levels are reasonable. See the discussion below in the increment analysis section for additional information on the evaluation of the ambient PM_{2.5} monitoring data.

While the De Minimis levels for both the NAAQS and increment are identical for PM_{2.5} in the table below, the procedures to determine significance (that is, predicted concentrations to compare to the De Minimis levels) are different. This difference occurs because the NAAQS for PM_{2.5} are statistically-based, but the corresponding increments are exceedance-based.

**Table 1. Modeling Results for PSD De Minimis Analysis
in Micrograms Per Cubic Meter (µg/m³)**

Pollutant	Averaging Time	GLCmax (µg/m ³)	De Minimis (µg/m ³)
SO ₂	1-hr	7.7	7.8
SO ₂	3-hr	20	25
SO ₂	24-hr	4	5
SO ₂	Annual	0.97	1
PM ₁₀	24-hr	1	5
PM ₁₀	Annual	0.8	1

³ www.epa.gov/ttn/scram/guidance/guide/Guidance_for_PM25_Permit_Modeling.pdf¹

Preliminary Determination Summary

Permit Numbers: 6825A, PSDTX49M1, and GHGPSDTX167

Page 9

Pollutant	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	De Minimis ($\mu\text{g}/\text{m}^3$)
PM _{2.5} (NAAQS)	24-hr	0.9	1.2
PM _{2.5} (NAAQS)	Annual	0.2	0.3
PM _{2.5} (Increment)	24-hr	1	1.2
PM _{2.5} (Increment)	Annual	0.2	0.3
NO ₂	1-hr	7.2	7.5
NO ₂	Annual	0.985	1
CO	1-hr	1586	2000
CO	8-hr	756	500

The 1-hr SO₂ GLCmax is the highest five-year average of the maximum predicted 1-hr concentrations determined for each receptor. The 24-hr PM_{2.5} (NAAQS) GLCmax is the highest five-year average of the maximum predicted 24-hr concentrations determined for each receptor. The annual PM_{2.5} (NAAQS) GLCmax is the highest five-year average of the predicted annual concentrations determined for each receptor. The 1-hr NO₂ GLCmax is the highest five-year average of the maximum predicted 1-hr concentrations determined for each receptor. The GLCmax for all other pollutants and averaging times are the maximum predicted concentrations associated with five years of meteorological data.

The applicant provided an evaluation of secondary PM_{2.5} impacts that considers modeling results of the directly emitted PM_{2.5} emissions, ambient background monitoring data representative for the project site, and proposed allowable emission rates of SO₂ and NO_x:

- Modeling results from the directly emitted PM_{2.5} emissions are less than the De Minimis levels.
- Adding the modeling results from the directly emitted PM_{2.5} emissions to representative background concentrations gives total concentrations well below the NAAQS.
- The proposed emissions of SO₂ and NO_x are greater than the SO₂ and NO_x SER (40 tpy). Secondary PM_{2.5} formation occurs as a result of chemical transformations that occur in the atmosphere gradually over time and only a portion of the SO₂ and NO_x emissions would be affected. Furthermore, secondary PM_{2.5} formation from SO₂ and NO_x is unlikely to overlap in space

Preliminary Determination Summary

Permit Numbers: 6825A, PSDTX49M1, and GHGPSDTX167

Page 10

or time with nearby maximum primary $PM_{2.5}$ impacts associated with the project sources.

- The applicant considered the potential contribution of secondary $PM_{2.5}$ from the proposed precursor emissions of SO_2 and NO_x for the project expansion with a comparison to existing regional $PM_{2.5}$ precursor emissions of SO_2 and NO_x based on the 2014 National Emissions Inventory database and determined that the precursor emissions of SO_2 and NO_x from the project (346.8 tpy and 478.6 tpy, respectively) are a small percentage of the emissions of SO_2 and NO_x from the air shed (14451 tpy and 20786 tpy, respectively).
- Although the proposed emissions of SO_2 and NO_x are greater than the SO_2 and NO_x SER (40 tpy), the modeling results from the SO_2 and NO_x emissions are less than their respective De Minimis levels.
- In addition, only a small portion of the proposed SO_2 and NO_x emissions would be expected to convert to secondary $PM_{2.5}$ in the form of ammonium sulfate and ammonium nitrate. To support this claim, the applicant reviewed $PM_{2.5}$ speciated monitoring data from a nearby monitor. The average sulfate and nitrate contribution to the 24-hr average $PM_{2.5}$ maximum concentration was 24% and 3.4%, respectively, of the total $PM_{2.5}$ monitored concentration. The average sulfate and nitrate contribution to the annual average $PM_{2.5}$ design concentration was 28.8% and 9%, respectively, of the total $PM_{2.5}$ monitored concentration. Therefore, based on the speciated monitoring data and the comparison of precursor emissions in relation to the air shed, particulate sulfate and nitrate formation is a small fraction of secondary formation of $PM_{2.5}$.

Intermittent guidance was relied on for the 1-hr NO_2 and 1-hr SO_2 NSR NAAQS analyses.

Preliminary Determination Summary

Permit Numbers: 6825A, PSDTX49M1, and GHGPSDTX167

Page 11

B. Air Quality Monitoring

The De Minimis analysis modeling results indicates that 8-hr CO exceeds the respective monitoring significance level and requires the gathering of ambient monitoring information.

The De Minimis analysis modeling results indicate that 24-hr SO₂, 24-hr PM₁₀, and annual NO₂ are below their respective monitoring significance level.

Table 2. Modeling Results for PSD Monitoring Significance Levels

Pollutant	Averaging Time	GLCmax (µg/m ³)	Significance (µg/m ³)
SO ₂	24-hr	4	13
PM ₁₀	24-hr	1	10
NO ₂	Annual	0.985	14
CO	8-hr	756	575

The GLCmax are the maximum predicted concentrations associated with five years of meteorological data.

The applicant evaluated ambient PM_{2.5} and CO monitoring data to satisfy the requirements for the pre-application air quality analysis.

Background concentrations for PM_{2.5} were obtained from the EPA AIRS monitor 482450021 located at 2200 Jefferson Dr., Port Arthur, Jefferson County. The applicant calculated a three-year average (2014-2016) of the 98th percentile of the annual distribution of the 24-hr concentrations for the 24-hr value (19.4 µg/m³). The applicant calculated a three-year average (2014-2016) of the annual concentrations for the annual value (9.2 µg/m³). This monitor is reasonable based on the applicant's quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site and the proximity of the monitor to the project site.

Background concentrations for CO were obtained from the EPA AIRS monitor 482451035 located at 1800 N. 18th Street, Nederland, Jefferson County. The highest second high (H2H) 8-hr concentration from the most recent three years of monitoring data (2014-2016) was used for the 8-hr value (555.6 µg/m³). The applicant did not address the 1-hr CO monitored concentration for the pre-application analysis. The ADMT reviewed the monitoring data from the selected monitor and supplemented the 1-hr CO H2H concentration from the most recent three years of monitoring data (2014-2016) to use for the 1-hr value (914.3 µg/m³). The use of this monitor is reasonable based on the applicant's quantitative review

Preliminary Determination Summary

Permit Numbers: 6825A, PSDTX49M1, and GHGPSDTX167

Page 12

of emissions sources in the surrounding area of the monitor site relative to the project site and the proximity of the monitor to the project site.

C. National Ambient Air Quality Standards (NAAQS) Analysis

The De Minimis analysis modeling results indicate that 8-hr CO exceeds the respective de minimis concentration and requires a full impacts analysis. The full NAAQS modeling results indicate the total predicted concentrations will not result in an exceedance of the NAAQS.

Table 3. Total Concentrations for PSD NAAQS (Concentrations > De Minimis)

Pollutant	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	Background ($\mu\text{g}/\text{m}^3$)	Total Conc. = [Background + GLCmax] ($\mu\text{g}/\text{m}^3$)	Standard ($\mu\text{g}/\text{m}^3$)
CO	8-hr	754	3667	4421	10000

The GLCmax is the maximum H2H concentration associated with five years of meteorological data.

Background concentrations for CO were obtained from the EPA AIRS monitors 481410055 located at 650 R E Thomason Loop, El Paso, El Paso County and 482451035 located at 1800 N. 18th Street, Nederland, Jefferson County. The applicant reviewed the H2H 8-hr monitored concentrations for the years 2014-2016 for each monitor. The applicant combined the highest H2H 8-hr monitored concentrations from the two monitors to use as the background. Although this approach does not follow guidance, this is conservative since the applicant is combining the highest 8-hr monitored concentration in the state (El Paso County monitor) with the nearby representative monitor (Jefferson County monitor).

Table 4. PSD Ambient Air Quality Analysis for Ozone

Pollutant	Monitor	Averaging Time	Background (ppb)	Standard (ppb)
O ₃	482450011	8-hr	67.3	70

A background concentration for O₃ was obtained from the EPA AIRS monitor 482450011 located at 623 Ellias Street, Port Arthur, Jefferson County. A three-year average (2014-2016) of the annual fourth highest daily maximum 8-hr concentrations was used in the analysis. The use of this monitor for a background concentration of ozone is reasonable based on the proximity of the monitor to the project site (approximately 3.5 km to the north).

The applicant reviewed the photochemical modeling analyses for the Beaumont-Port Arthur (BPA) area conducted by the TCEQ, which is where the representative monitor is located. The photochemical modeling analyses for the BPA area

Preliminary Determination Summary

Permit Numbers: 6825A, PSDTX49M1, and GHGPSDTX167

Page 13

demonstrated that reducing NO_x emissions is more effective in reducing the eight-hour ozone Design Value (DV) in the BPA area than reducing VOC emissions. This information supports that the project area is best characterized as a NO_x-limited area. Refer to [BPA 1997 Eight-Hour Ozone Redesignation Request and Maintenance Plan SIP](#) for more details on the photochemical modeling analyses for the Beaumont-Port Arthur (BPA) area.

In addition, the applicant reviewed ozone photochemical modeling conducted for Cheniere Sabine Pass LNG, LP in 2014 and the associated ozone analysis conducted for Golden Pass LNG, which are nearby.

The analysis evaluated ozone concentrations using the Comprehensive Air Quality Model with Extensions (CAMx). The analysis evaluated VOC and NO_x emissions of 256.7 tpy and 5266.6 tpy, respectively. Emissions associated with the Golden Pass project had VOC and NO_x emissions of 256.08 tpy and 669.84 tpy, respectively. The proposed project has VOC and NO_x emissions of 500.2 tpy and 478.6 tpy, respectively. The modeled results showed that the maximum impact on the 8-hr ozone concentration within the airshed from the Sabine Pass LNG operations was 0.5 parts per billion (ppb). Using the Sabine Pass LNG results, it was determined that the estimated increase in ozone from the Golden Pass project and the proposed project would be 0.08 ppb and 0.09 ppb, respectively. Combining the estimated increases in ozone from the three projects with the monitored concentration results in a total concentration below the 8-hr ozone standard.

Therefore, based on the results of the photochemical modeling, the applicant concluded that the impacts of the proposed emissions would not cause a violation of the NAAQS. The use of the ozone photochemical modeling conducted for Sabine Pass LNG, LP and the associated ozone analysis for Golden Pass LNG is reasonable based on the proximity of the three sites. Based on the magnitude of the photochemical modeling results, the VOC and NO_x emissions associated with the proposed project will not cause a violation of the NAAQS.

D. Increment Analysis

The De Minimis analysis modeling results indicate that the 3-hr, 24-hr, and annual SO₂, 24-hr and annual PM₁₀, 24-hr and annual PM_{2.5}, and annual NO₂ did not exceed the respective de minimis concentrations and do not require a PSD increment analysis.

The applicant used representative monitoring data to justify using the PM_{2.5} De Minimis levels for the PSD Increment analysis. Ambient concentrations for PM_{2.5} were obtained from the EPA AIRS monitor 482450021 located at 2200 Jefferson Dr., Port Arthur, Jefferson County. The applicant evaluated the difference in ambient concentrations for the time period between 2016 and the major source baseline date (2010). A comparison of the 24-hr H2H and annual monitored concentrations for 2010 and 2016 show a change in ambient concentrations of -8.1 µg/m³ and -2.6 µg/m³, respectively. When the changes in ambient concentrations are subtracted from the applicable increments (9 µg/m³ and 4 µg/m³, respectively),

Preliminary Determination Summary

Permit Numbers: 6825A, PSDTX49M1, and GHGPSDTX167

Page 14

the differences are greater than the De Minimis levels. Therefore, the use of the PM_{2.5} De Minimis levels is reasonable.

E. Additional Impacts Analysis

The applicant performed an Additional Impacts Analysis as part of the PSD AQA. The applicant conducted a growth analysis and determined that population will not significantly increase as a result of the proposed project. The applicant conducted a soils and vegetation analysis and determined that all evaluated criteria pollutant concentrations are below their respective secondary NAAQS. The applicant meets the Class II visibility analysis requirement by complying with the opacity requirements of 30 TAC 111. The Additional Impacts Analyses are reasonable and possible adverse impacts from this project are not expected.

The ADMT evaluated predicted concentrations from the proposed site to determine if emissions could adversely affect a Class I area. The nearest Class I area, Breton Wilderness, is located approximately 479 kilometers (km) from the proposed site.

The predicted concentrations of PM₁₀, PM_{2.5}, NO₂, and SO₂ for all averaging times, are all less than de minimis levels along the fence line in the direction of Breton Wilderness Class I area. Breton Wilderness is 479 km from the location where the predicted concentrations of PM₁₀, PM_{2.5}, NO₂, and SO₂ for all averaging times are less than de minimis. Therefore, emissions from the proposed project are not expected to adversely affect the Breton Wilderness Class I area.

F. Minor Source NSR and Air Toxics Review

Table 5. Site-wide Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	Standard ($\mu\text{g}/\text{m}^3$)
SO ₂	1-hr	534	817
H ₂ S	1-hr	77	108 (If property is residential, recreational, business, or commercial)
H ₂ S	1-hr	161	162 (If property is not residential, recreational, business, or commercial)

Attachment 7

Permit Amendment

Source Analysis & Technical Review

Company	The Premcor Refining Group Inc.	Permit Numbers	6825A, PSDTX49, and GHGPSDTX167
City	Port Arthur	Project Numbers	266018, 266024, and 266027
County	Jefferson	Account Number	JE-0042-B
Project Type	Amend	Regulated Entity Number	RN102584026
Project Reviewer	Rick Goertz, P.E.	Customer Reference Number	CN601420748
Site Name	Valero Port Arthur Refinery		

Project Overview

The Premcor Refining Group, Inc (Premcor) owns and operates a petroleum refinery located in Port Arthur, Jefferson County, Texas. Premcor has submitted a permit amendment to authorize construction and operation of a new delayed coker unit. Facilities and activities being authorized include the following.

1. Two new furnaces
2. Emissions from coker steam vent during periods that coke is removed from the coker drum.
3. Coke handling and storage
4. A new sulfur recovery unit (SRU) and tailgas incinerator (TGI)
5. Three new external floating roof storage tanks (EFRs)
6. Two new vertical fixed roof storage tanks
7. Wastewater collection facilities
8. New fugitive components associated with new and modified sources
9. Modifications to existing cooling towers
10. Modifications to 3 existing heaters
11. Incorporate Permits by Rule (PBR) into the permit by consolidation and reference.

Emission Summary

Air Contaminant	Current Allowable Emission Rates (tpy)	Allowable Emission Rates authorized by PBR (tpy)	Proposed Allowable Emission Rates (tpy)	Change in Allowable Emission Rates (tpy)	Project Changes at Major Sources (Baseline Actual to Allowable)*
PM	462.82		483.46	20.64	92.10
PM ₁₀	29.06		231.27	202.21	84.10
PM _{2.5}	51.36		223.38	172.02	80.10
VOC	1929.21	45.59	1992.57	63.36	500.60
NO _x	1622.92		1679.96	57.04	477.60
CO	2976.25		3108.87	132.62	743.40
SO ₂	1510.25		1667.03	156.78	351.90
H ₂ S	11.40	0.82	23.46	12.06	14.20
HF	1.64	0.02	1.64	0	0
CO ₂	0		2,652,243	2,652,243	2,652,243
CH ₄	0		597.71	597.71	597.71
N ₂ O			4,431	4,431	4,431
GHG mass basis			2,657,271.71	2,657,271.71	2,657,271.71
CO ₂ Equivalents (CO ₂ e)			2,668,504	2,668,504	2,668,504

Of the 231.27 tpy of PM10 being authorized, 108.19 tpy is assumed to previously exist but was not previously codified in the permit.

Of the 223.38 tpy of PM2.5 being authorized, 86.15 tpy is assumed to previously exist but was not previously codified in the permit

Compliance History Evaluation - 30 TAC Chapter 60 Rules

A compliance history report was reviewed on:	March 10, 2017
Site rating & classification:	24.80 / Satisfactory
Company rating & classification:	19.94 / Satisfactory
If the rating is 50<RATING<55, what was the outcome, if any, based on the findings in the formal report:	N/A
Has the permit changed on the basis of the compliance history or rating?	No

Public Notice Information - 30 TAC Chapter 39 Rules

Rule Citation	Requirement	
39.403	Is Public Notice Required?	Yes
	Date Application Received:	February 28, 2017
	Date Administratively Complete:	March 9, 2017
	Small Business Source?	No
	Date Leg Letters mailed:	March 9, 2017
39.603	Date Published:	March 26, 2017
	Publication Name:	<i>The Port Arthur News</i>
	Pollutants:	carbon monoxide, hydrogen sulfide, nitrogen oxides, organic compounds, particulate matter including particulate matter with diameters of 10 microns or less and 2.5 microns or less and sulfur dioxide. The existing facility will also emit greenhouse gases
	Date Affidavits/Copies Received:	May 1, 2017
	Is bilingual notice required?	Yes
	Language:	Spanish
	Date Published:	March 26, 2017
	Publication Name:	<i>El Perico</i>
	Date Affidavits/Copies Received:	May 1, 2017
	Date Certification of Sign Posting / Application Availability Received:	May 1, 2017
39.604	Public Comments Received?	No
	Hearing Requested?	No
	Meeting Request?	No
	Date Response to Comments sent to OCC:	N/A
	Consideration of Comments:	N/A
	Is 2nd Public Notice required?	Yes
39.602(c)	Date SB 709 Legislative Notification Sent:	September 22, 2017
39.419	Date 2nd Public Notice/Preliminary Decision Letter Mailed:	
39.413	Date Cnty Judge, Mayor, and COG letters mailed:	
	Date Federal Land Manager letter mailed:	
39.605	Date affected states letter mailed:	
39.603	Date Published:	

	Publication Name:	
	Pollutants:	
	Date Affidavits/Copies Received:	
	Is bilingual notice required?	
	Language:	
	Date Published:	
	Publication Name:	
	Date Affidavits/Copies Received:	
	Date Certification of Sign Posting / Application Availability Received:	
	Public Comments Received?	
	Meeting Request?	
	Date Meeting Held:	
	Hearing Request?	
	Date Hearing Held:	
	Request(s) withdrawn?	
	Date Withdrawn:	
	Consideration of Comments:	
39.421	Date RTC, Technical Review & Draft Permit Conditions sent to OCC:	
	Request for Reconsideration Received?	
	Final Action:	
	Are letters Enclosed?	

Construction Permit & Amendment Requirements - 30 TAC Chapter 116 Rules

Rule Citation	Requirement	
116.111(a)(2)(G)	Is the facility expected to perform as represented in the application?	Yes
116.111(a)(2)(A)(i)	Are emissions from this facility expected to comply with all TCEQ air quality Rules & Regulations, and the intent of the Texas Clean Air Act?	Yes
116.111(a)(2)(B)	Emissions will be measured using the following method:	CEMS, sampling, recordkeeping, and engineering calculation
	Comments on emission verification:	
116.111(a)(2)(D)	Subject to NSPS?	Yes
	Subparts A & J, Ja, K, Ka, Kb, GGG, GGGa, and QQQ	
116.111(a)(2)(E)	Subject to NESHAP?	Yes
	Subparts A & BB and FF	
116.111(a)(2)(F)	Subject to NESHAP (MACT) for source categories?	Yes
	Subparts A & CC , UUU , and DDDDD	
116.111(a)(2)(H)	Nonattainment review applicability:	
	The site is located in Jefferson County which is currently designated as an attainment or unclassified area for all criteria pollutants. Non-Attainment review does not apply	
116.111(a)(2)(I)	PSD review applicability:	

The site is an existing named major source for VOC (as Ozone precursor), NOx, CO, SO2, PM, PM10, PM2.5, and H2S. Project increases for all pollutants exceed netting significance levels. Contemporaneous netting was conducted for each pollutant. The net project increase for all pollutants exceed major modification significance levels. PSD review is required for all pollutants.

	VOC (tpy)	NOx (tpy)	CO (tpy)	SO2 (tpy)
Project Increases	500.60	477.6	351.90	743.40
Netting Significance level	40	40	100	100
Netting Required?	Yes	Yes	Yes	Yes
Major Modification Significance level	40	40	100	100
PSD Required	Yes	Yes	Yes	Yes

	PM (tpy)	PM10 (tpy)	PM2.5(tpy)	H2S (tpy)
Project Increases	92.10	84.10	80.10	14.20
Netting Significance level	25	15	10	10
Netting Required?	Yes	Yes	Yes	Yes
Major Modification Significance level	25	15	10	10
PSD Required	Yes	Yes	Yes	Yes

Since this project will increase emissions of at least one criteria pollutant above the PSD major modification significant emission rate, GHG pollutants must be reviewed for PSD. This project will increase emissions of carbon dioxide equivalents (CO2e) by 2,668,504 tpy. The emissions increase for this project is greater than the major modification significant emission rates of 75,000 tpy CO2e. Based on the requirements of Step 1 of the GHG Tailoring Rule, this project is subject to GHG PSD Permitting

116.111(a) (2)(L)	Is Mass Emissions Cap and Trade applicable to the new or modified facilities?	No
	If yes, did the proposed facility, group of facilities, or account obtain allowances to operate:	N/A
116.140 - 141	Permit Fee: \$ 75,000	Fee certification: 53435883
	Applicable Outstanding Fees:	

Title V Applicability - 30 TAC Chapter 122 Rules

Rule Citation	Requirement
122.10(14)	Title V applicability:
	The site is currently a major source subject to the Federal Operating Permit (Title V) program and is authorized to operate under Site Operating Permit (SOP) numbers 1498, 2227, 2228, 2229, 3423
122.602	Periodic Monitoring (PM) applicability:
	<ul style="list-style-type: none"> • Heaters and Furnaces: NOx and CO will either be monitored via CEMS or emissions will be determined based on monitoring fuel usage and emission factors obtained from stack sampling. SO2 emissions will be determined based on sampling the fuel for sulfur content and monitoring fuel usage. Emissions of PM and VOC will be determined based on fuel flow and emission factors. • Coke Handling: monitoring coke throughput, maintaining moisture content, and recordkeeping. • Coker Steam Vent: Pressure monitoring and recordkeeping. • SRU 547 Tailgas Incinerator: SO2 and H2S will be monitored by CEMS. Emissions of CO, PM (all fractions), NOx, and VOC will be determined based on stack test results and fuel flow monitoring. • Sulfur Loading: Sampling for H2S and throughput data. • Storage Tanks: Monitoring throughput and recordkeeping. • Coker Sludge Tanks: Monitoring of throughput and sampling CAS exit concentration. • Fugitives: 28 VHP fugitive monitoring program.

	<ul style="list-style-type: none"> • Cooling towers: Monitoring circulation rate, sampling for VOC content and period sampling to determine dissolved solids content, and recordkeeping. • MSS: <ul style="list-style-type: none"> • Uncontrolled: Sampling and recordkeeping • Controlled: <ul style="list-style-type: none"> • Vapor Combustor: Continuous temperature monitoring • Flare: Monitoring for presence of a pilot flame, monitoring heat content of gas, flow rate.
122.604	Compliance Assurance Monitoring (CAM) applicability:
	Flares used to control emissions will be continuously monitored for the presence of a pilot flare and will continuously monitor flow and BTU content for compliance with 40 CFR 60.18.

Request for Comments

Received From	Program/Area Name	Reviewed By/Date	Comments
Region:	10	Neadra Richard/ October 9, 2017	Investigator had concerns with the issuance of the permit due to the wastewater treatment plant (WWTP) being authorized by standard exemption.
City:	Port Arthur		
County:	Jefferson		
ADMT:		Justin Cherry and Phillip Leung/ November 16, 2017	Acceptable.
EB&T:			
Toxicology:	Jong-Song Lee	Jong-Song Lee/ November 9, 2017	Analysis was acceptable and no adverse effects are anticipated.
Compliance:		None	
Legal:		None	
Comment resolution and/or unresolved issues:			It was conveyed to the investigator that the WWTP is not a modified facility for this project. Therefore no BACT review is required. Unless a compliance issue exists, the applicant cannot be required to reauthorize the facility. The applicant was required to submit an APD CERT to create enforceable limits from the facility

Process/Project Description

Premcor has submitted a permit amendment to authorize construction and operation of a new 60,000 barrel per day (BPD) delayed coker unit. Changes will also increase the crude processing capacity of the refinery from 415,000 bbl/day to 430,000 bbl/day on an annual average basis. GHG emissions are being quantified on the MAERT for all new, modified, and affected sources. New facilities and emission sources being authorized include the following.

1. Installation of two coker furnaces (EPNs 844-H1 and 844-H2). Both furnaces are represented to have a maximum rating of 230.3 MMBtu/hr and an annual average of 209 MMBtu/hr. NOx emissions will be controlled by Selective Catalytic Reduction (SCR).
2. Emissions from the new coker steam vent (EPN (CSV844). Valero is also requesting to authorize emissions from the existing coker steam vent with this project (EPN CSV843)
3. Installation of a new sulfur recovery unit (SRU) (FIN 547) with tail gas incinerator (TGI) (EPN E-05-SCOT). The capacity of the SRU is limited to 417 long tons per day (LTPD).
4. Construction of 1 new vertical fixed roof tank (EPN T-8002) to store sulfur from the new SRU.
5. Emissions due to loading sulfur from the new sulfur tank (EPN F-LOADING)
6. Three 420,000 barrel (bbl) external floating roof storage tanks (EFRs) to store crude oil (EPNs T-112, T-113, and T-114)
7. Two 37,500 gallon vertical fixed roof tanks storing coker sludge (EPNs T-8010, T-8400). Emissions from the coker sludge tanks will be controlled by a carbon adsorption system.
8. Wastewater collection system associated with new coker (EPN WWC)
9. Increase in fugitive components.
10. MSS emissions associated with new facilities including

- a. emissions from tank roof landings (standing idle, degassing, uncontrolled venting, and refilling) from new EFRs
 - b. Startup of the new coker furnaces
 - c. MSS from the shutdown of the new coker and associated fractionation facilities.
 - d. Controlled shutdown and uncontrolled degassing emissions from SRU 547
11. Incorporate PBR registration numbers 109221, 139481 142281, 142861, 131468, 118687, 135706, and 145971 and standard permit 142399 into the permit by consolidation.
 12. Partial incorporation of PBR registrations 139815 and 103875 into the permit by consolidation. The remaining portions of PBR 139815 will be incorporated by reference.

Modified facilities and sources of emissions include the following:

1. Increased coke storage and handling (EPNs F-843PM and F-844PM)
2. A new cell will be added to cooling tower 433 (EPN E-433-CT) and the water recirculation rate will be increased by 15,000 gallons per minute (gpm)
3. The circulation rate of cooling tower 446 (EPN F-446CT) will be increased by 8,400 gpm.
4. A new cell will be added to cooling tower 443 (EPN CT-244) and the water recirculation rate will be increased by 10,000 gallons per minute (gpm).
5. Firing rates for heaters 146-H101, 146-H102A/B, and the HCU Fractionation Feed Furnace (EPNs E-01-146, E-02-146, and E-02-943)
6. Fugitives associated with new upgrades to existing sources (EPN REFFUG).

Affected sources with emission changes include the following:

1. In addition to adding GHG emissions, heaters 245, 147-F-1100, 1344-H1, 1344-H33, 1344-H2-3-32, 843-H-1, 843-H-2, 843-H-3, 246-H1, 241-B101AB, 242-B101AB, 243, 244F-101/102, 942-H1_2-3, 443 (EPNs E-01-245, E-01-147, E-01-1344, E-02-1344, E-03-1344, E-01-843, E-02-843, E-03-843, E-01-246, E-01-241, E-01-242, E-01-243, E-01-244, E-01-942, E-01-443) are updating emissions of PM to address roundoff of the emission factor and add PM₁₀ and PM_{2.5} emissions.
2. In addition to adding GHG emissions, heaters 1344-H1 and 242-B101AB (EPNs E-01-1344, and E-01-242) are adding PM₁₀ and PM_{2.5} emissions to the permit.
3. In addition to adding GHG emissions, heater 242-B201AB (EPN E-01-242) is reducing the annual average NOx emission limit to 0.065 lb NOx/MMBtu.
4. In addition to adding GHG emissions, heater 443 (EPN E-01-443) is reducing the maximum 1-hour NOx emission limit to 0.07 lb NOx/MMBtu.
5. In addition to adding GHG emissions, reactor 1 & 2 furnaces (EPN E-01-943) are adding emissions of VOC to the permit.
6. In addition to adding GHG emissions, reactor 1 & 2 furnaces (EPN E-01-943) are adding emissions of VOC to the permit

Permit Changes - Special Conditions (SC)

Current Proposed Change

1 1 Updated to include MSS

3 and 5 3 and 5 Updated federal applicability to include applicability of 40 CFR Part 60, Subparts Ja and GGGa and 40 CFR Part 63, Subpart DDDDD.

7 -- Control device efficiency specifications have been moved to the respective locations of the permit and the condition removed.

- 7 Added monitoring provisions for marine loading vapor combustor.

- 9.F Added provision that atmospheric tanks not store any liquid having a true vapor pressure greater than 11.0 pisa

- 9.G Added loading limits for new EFR tanks EPNs T-112, T-113, and T-114

- 9.H Added design provision for construction of new tanks.

- 9.I Added limits and provisions for monitoring Hydrogen Sulfide (H₂S) in crude.

- 9.J Added specific requirements for coker sludge feed tanks.

11 12 Updated loading limits for marine vessels

11 13 Updated general requirements for marine loading.

- 14 Added monitoring provisions for vacuum loading of inland barges

- 15 Added monitoring provisions for claiming 99% collection efficiency from ocean going ships.

- 16 Added throughput recordkeeping requirements for marine loading
- 20 Added requirements for cooling towers (EPNs E-433-CT, F-446CT, and CT-244) effective upon startup of the new coker.
- 22 Added provision identifying sulfur recovery units (SRU), associated trains, and recovery limits (long tons per day) for each train. Also added provision whereby the sulfur recovered from at the site should not exceed 1850 LTPD on an annual basis. Limit is based on modeling for PSD and is not a BACT consideration.
- 16 23 Added sulfur recovery requirement for new SRU 547 and recordkeeping requirements to keep compliance calculations.
- 18 25 1) remove requirements pertaining to the construction of sour water tank 79. The tank has never been constructed and would require new authorization 2) Add calibration and maintenance requirements for any sour water level detection device used to demonstrate compliance with SC20.C., 3) Remove provision D from the permit since the COEX project has already started up and replaced it with current requirements for the sour water tank system.
- 19 26 Updated requirements for handling liquid sulfur from the SRUs to include reference and requirements for SRU 547.
- 29.C Added specific TGI monitoring requirements for SRU 547.
- 32.B,C Added limits and requirements for DCU 844 coker Furnace #1 (EPN E-01-844), DCU 844 coker Furnace #2 (EPN E-02-844), Hydrocracker Unit 943 Fractionator Feed Furnace (EPN E-02-943), heaters Heater 146-H101 (EPN E-01-146), and Heaters AVU No. 146 H-102A and H-102B (EPN E-02-146).
- 25 33 Fuel Gas SC was updated to indicate higher heating value of fuel (HHV) rather than the net heating value and added requirements for heaters upon startup of the coker project.
- 33.E Added sulfur requirements for fuel gas applicable upon startup of the coker project.
- 25.E 33.F Added provision 3 for determining the HHV of the fuel gas for heaters and boilers.
- 26 34 Added recordkeeping requirement for fuel usage.
- 38 Added requirements for delayed cokers.
- 31 40 Updated requirements for coke transfer rates applicable upon start of operation of the coker project.
- 40 49 Added stack tests requirements for new coker furnaces EPNS (E-01-844 and E-02-844), tailgas incinerator (EPN E-05-SCOT), and the marine loading vapor combustor (EPN E-MC-24-25). Removed requirement to stack test for SO₂ since fuel gas is monitored for sulfur content.
- 41 50 Added CEMS requirements for new coker furnaces EPNS (E-01-844 and E-02-844) and tailgas incinerator (EPN E-05-SCOT).
- 43 52 Added new coker furnaces EPNS (E-01-844 and E-02-844) to requirements for monitoring ammonia slip (NH₃) from the SCR.
- 48C - Removed provision that allowed alternate monitoring and repair of fugitive components until December 31, 2012 since this date is well past and the provision is no longer applicable.
- 50 59 Added wastewater collection system from the coker units (EPN WWC) to the condition related to wastewater collection. Added recordkeeping section 54.C to the permit.
- 61 Added conditions for the carbon adsorption system used to control emissions from coker unit sludge tanks T-8010 and T-8400.
- 67 Added list of Permits by Rule incorporated by reference not associated with the PSD or GHG permit.
- 68 Added list of Permits by Rule incorporated by reference with affected units included in the PSD and GHG permit.
- 82 Added general requirements related to MSS activities (depressurization, emptying, degassing, and opening) to the permit
- 57 83 Added provisions C, D, E, and F for MSS associated with new facilities authorized by this project.
- 84 Tank roof landing requirements for new external floating roof tanks.
- 85 Boilerplate MSS sampling requirements.
- 86 Limits on specified facilities during MSS.
- 87 Requirements for vapor combustors and flares used to control emissions from MSS activities.
- 89 Added provision that permit holder must submit an as built representation to the coker project no later than the start of operation.

Pollution Prevention, Sources, Controls and BACT- [30 TAC 116.111(a)(2)(C)]

As part of the Best Available Control Technology (BACT) review, the Texas Commission on Environmental Quality (TCEQ) evaluates information from the Environmental Protection Agency's (EPA's) RACT/BACT/LAER Clearinghouse (RBLC), on-going permitting in Texas and other states, and the TCEQ's continuing review of emissions control developments for pollutants triggering a PSD review. A PSD review is required for NO_x, CO, SO₂, H₂S, PM₁₀/PM_{2.5}, VOC, and GHG. The following represents BACT for the new, modified, and consolidated sources for GHG and criteria pollutants.

- Consolidated PBRs – All emissions associated with PBRs are fugitives. Emissions will be monitored via 28 VHP or AVO fugitive monitoring programs.
- Consolidated Standard Permit - the standard permit 142399 codified emissions of PM10 and PM2.5 for the sulfur recovery TGIs into the TGI Cap. PM emissions were already authorized and emissions of PM10 and PM2.5 were assumed to be equal to that of PM.
- New coker furnaces EPNs E-01-844 and E-02-844:
 - 0.015 lb NO_x/MMBtu on a 1-hour average. Furnaces will be equipped with Selective Catalytic Reduction (SCR). 0.015 lbNO_x/MMBtu rather than 0.01 lb NO_x/MMBtu is considered BACT since the site is firing fuel gas which has a higher hydrogen content.
 - 100 ppmv CO on an hourly average and 50 ppmv on an annual average.
 - 10 ppmv ammonia (NH₃) slip
- Modified heater EPNs HCU-943, AVU-146-H1, and AVU-146-H2:
 - Heater 943 F-3 (EPN E-02-844) is a 348 MMBtu/hr heater and is equipped with SCR. 0.015 lb NO_x/MMBtu on a 1-hour basis is considered BACT for firing fuel gas due to the higher hydrogen content of the fuel. Heaters 146 H-101 and 146 H-102A/B (EPNs E-01-146 and E-02-146) are 550 MMBtu/hr and 260 MMBtu/hr heaters respectfully. The heaters were constructed in the mid 1970s. It was determined that adding SCR to these units is technically infeasible due to the structural integrity of the foundations. Heaters will be equipped with low NO_x burners with a guaranteed emission rate of 0.067 and 0.062 lb NO_x/MMBtu respectively. The low NO_x burners are not able to achieve additional NO_x control due to the dimensional constraints that affect the flame size and stability.
- Fuel Gas: A fuel gas total sulfur content of 90 ppmv on a 1-hour average and 30 ppmv sulfur on an annual average basis. The permit holder is allowed 200 hours per year of a higher sulfur concentration but not to exceed 160 ppmv.
- Coker vents (EPNs CSV843 and CSV844): Search results of the RACT/BACT/LAER Clearinghouse do not specify control methods for coker steam vents. The TCEQ has not published any BACT guidelines for these sources. Federal Rules and recently issued permits indicate that reducing the pressure at which the coker vent is opened to the atmosphere is the best way to reduce VOC, PM, and H₂S emissions. Depressurizing to 2.0 psig prior to venting to atmosphere pursuant to 40 CFR 63 is considered BACT.
- Coke Handling - PM emissions will be minimized by maintaining the moisture content in the coke at least 6%. Use of partial enclosures will also assist in minimizing PM emissions to the atmosphere.
- Storage Tanks
 - External Floating Roof tank EPNs T-112, T-113, and T-114: Mechanical or liquid mounted primary seal with a secondary rim mounted seal. Tanks equipped with slotted guidepoles with gasketed sliding covers, either pole sleeves or floates, and wipers. Tanks will also be constructed with drain dry design.
 - Coker sludge feed tanks EPNs T-8010 and T-8400: Tanks will be a fixed roof tank with emissions controlled by a Carbon Adsorption System (CAS). CAS will be non-regenerative with a least two canisters in series. The maximum exit concentration from the CAS will be 100 ppmv.
 - Sulfur storage tank 8002 – Tank will store molten sulfur from the SRU. Sulfur will be degassed to a maximum of 200 ppmv H₂S prior to storage. This is considered BACT for this operation.
- Sulfur Recovery – 99.8% sulfur recovery
- Tailgas incineration: 0.08 lb NO_x/MMBtu, 250 ppmvd CO at 0% oxygen (short term) 100 CO ppmvd at 0% oxygen (annual), 250 ppmvd SO₂ at 0% oxygen short term and 100 ppmvd SO₂ at 1% oxygen annual basis.
- Sulfur Loading – Sulfur to be degassed to 100 ppmv prior to being loaded. Sulfur with an H₂S concentration of 200 ppmv may be loaded provided it does not exceed 10 days per year.
- Wastewater collection– Lift stations, manholes, junction boxes, any other wastewater collection system components, and conveyance shall be equipped with a closed vent system that routes all organic vapors to a control device.
- Cooling towers – 0.001% drift. VOC leak not to exceed 0.8 ppmw.
- Fugitives: 28 VHP fugitive monitoring program
- MSS – tanks and vessels with an original liquid with a vapor pressure greater than 0.5 psia will be vented to control until the vapor space concentration is verified to be less than or equal to 10,000 ppmv at which time vapors may be vented to the atmosphere. Tanks must be vented to control during all periods except uncontrolled venting.
- Startup of combustion may exceed permit limits specified for normal operation provided it does not exceed a specified number of hours per year.

Impacts Evaluation - 30 TAC 116.111(a)(2)(J)

Was modeling conducted?	Yes	Type of Modeling:	AERMOD (version 16216r)
Will GLC of any air contaminant cause violation of NAAQS?	No		

Is this a sensitive location with respect to nuisance?	No
[§116.111(a)(2)(A)(ii)] Is the site within 3000 feet of any school?	No
Additional site/land use information: None	

Summary of Modeling Results

A PSD air quality analysis was required for NO_x, CO, SO₂, PM₁₀, PM_{2.5}, H₂S and ozone. The De Minimis analysis modeling results indicate that the 3-hr, 24-hr, and annual SO₂, 24-hr and annual PM₁₀, 24-hr and annual PM_{2.5}, and annual NO₂ did not exceed the respective de minimis concentrations and do not require a PSD increment analysis. No PSD increment is established for ozone, so an increment analysis was not required.

The De Minimis analysis modeling results indicate that 8-hr CO exceeds the respective de minimis concentration and requires a full impacts analysis. The full NAAQS modeling results indicate the total predicted concentrations will not result in an exceedance of the NAAQS.

A detailed review of PSD air quality results is presented in the Preliminary Determination Summary which accompanies this Technical Review Summary.

The TCEQ Executive Director has determined that air dispersion modeling is not required for GHG emissions as it would not determine air quality impacts from the proposed new facility or source modification. The impacts review for individual air contaminants classified as part of GHGs will continue to be addressed, as applicable, in the state's traditional minor and major NSR permits program per 30 TAC Chapter 116.

A state property line evaluation was conducted for SO₂ and H₂S. Per table 1, the one hour maximum ground level concentration does not exceed the standard. Impacts are acceptable. No further review is required.

Table 1. Site-wide Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax	Standard
		($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)
SO ₂	1-hr	534	817
H ₂ S	1-hr	77	108 (If property is residential, recreational, business, or commercial)
H ₂ S	1-hr	161	162 (If property is not residential, recreational, business, or commercial)

Minor NSR project related modeling for health effects were submitted for ammonia, hydrogen fluoride, and N-methyldiethanamine. At no time did the Maximum Ground Level Concentration (GLCmax) exceed 10 percent of the ESL for the pollutant for all averaging periods. Results are acceptable and no further review is required.

Table 2. Minor NSR Production Project-Related Modeling Results for Health

Pollutant & CAS#	Averaging Time	GLCmax	10% ESL
		($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)
ammonia 7664-41-7	1-hr	1	18
ammonia 7664-41-7	Annual	0.05	9.2
hydrogen fluoride 7664-39-3	1-hr	0.4	1.8
hydrogen fluoride 7664-39-3	Annual	0.03	0.87
N-methyldiethanolamine 105-59-9	1-hr	7	9.6

Site-wide modeling was submitted for refinery light, refinery heavy and crude oil. A modeling audit was conducted by the Air Permits Modeling Team dated November 16, 2017. The results of the modeling audit were submitted to the Toxicology Division and approved per the correspondence dated November 8, 2017. Though the draft audit document was provided to the toxicology division prior to finalization, the results contained in the final audit memo submitted to the toxicology division was not altered.

Table 3: Minor NSR Site-wide Modeling Results for Health Effects

Pollutant & CAS#	Averaging Time	GLCmax over Land ($\mu\text{g}/\text{m}^3$)	GLCwater over Water ($\mu\text{g}/\text{m}^3$)	GLCni ($\mu\text{g}/\text{m}^3$)	ESL ($\mu\text{g}/\text{m}^3$)
refinery light NA	1-hr	6957	11454	1015	3500
refinery heavy NA	1-hr	4495	9529	1321	1000
refinery heavy NA	Annual	141	77	9	100
crude oil NA	1-hr	5377	563	3519	3500
crude oil NA	Annual	25	2	5	350

Table 4: Minor NSR Hours of Exceedance for Health Effects

Pollutant	Averaging Time	1 X ESL GLCni	2 X ESL GLCmax	4 X ESL GLCmax
refinery heavy (over land)	1-hr	1	106	6
refinery heavy (over water)	1-hr	NA	437	121
crude oil (over land)	1-hr	1	0	0
refinery light (over water)	1-hr	NA	8	0

A tier II analysis was conducted for the pollutants and averaging periods indicated below:

Pollutant – refinery light

Averaging Period – 1-hr

Non-industrial – at no time did the GLCni exceed the ESL

Pollutants – crude oil and refinery heavy

Averaging Period - Annual

Industrial (over land) – At no time did the GLCmax exceed the ESL by more than two times

Nonindustrial – at no time did the GLCwater or GLCni exceed the ESL.

A Tier III analysis was conducted for the pollutants and averaging periods

Pollutants – all

Averaging Period – 1 hour

Industrial (over land and water)

At no time did the GLCmax exceed 10 times the ESL for any pollutant.

At no time did the GLCmax for crude oil or refinery light exceed the 2 times the ESL.

The GLCmax for refinery heavy does exceed 2 times the ESL by more than 24 hours and more than 4 times the ESL for more than 10 hours.

Non-Industrial

At no times does the GLCni exceed the ESL for more than 24 hours.

Permit Concurrence and Related Authorization Actions

Is the applicant in agreement with special conditions?	Yes
Company representative(s):	Mr. David Arnosky
Contacted Via:	
Date of contact:	
Other permit(s) or permits by rule affected by this action:	PBRs 109221, 139481, 142281, 142861, 131468, 118687, 135706, 145971 and standard permit 142399
List permit and/or PBR number(s) and actions required or taken:	PBRs 109221, 139481, 142281, 142861, 131468, 118687, 135706, 145971 and standard permit 142399. Void Upon issuance

Project Reviewer	Date	Team Leader	Date
Rick Goertz, P.E.		Ryan Tedford	

Attachment 8

Excerpt



John R. Kasich, Governor
 Mary Taylor, Lt. Governor
 Craig W. Butler, Director

2/9/2018

Certified Mail

Mr. Jason Aagenes
 IronUnits LLC - Toledo HBI
 P.O. Box 180
 Eveleth, MN 55734

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL
 Facility ID: 0448011992
 Permit Number: P0123395
 Permit Type: Initial Installation
 County: Lucas

Yes	TOXIC REVIEW
Yes	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
Yes	MODELING SUBMITTED
Yes	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**
- **What should you do if you notice a spill or environmental emergency?**

How to appeal this permit

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
 30 East Broad Street, 4th Floor
 Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

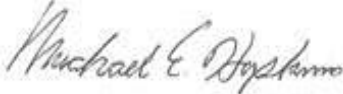
This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

What should you do if you notice a spill or environmental emergency?

Any spill or environmental emergency which may endanger human health or the environment should be reported to the Emergency Response 24-HOUR EMERGENCY SPILL HOTLINE toll-free at (800) 282-9378. Report non-emergency complaints to the appropriate district office or local air agency.

If you have any questions regarding your permit, please contact Toledo Department of Environmental Services at (419)936-3015 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael E. Hopkins, P.E.
Assistant Chief, Permitting Section, DAPC

Cc: U.S. EPA
TDES; Michigan; Indiana; Canada

Response to Comments

Facility ID:	0448011992
Facility Name:	IronUnits LLC - Toledo HBI
Facility Description:	Hot briquetted iron manufacturing facility
Facility Address:	bound by Front St. and Millard Ave. Toledo, OH 43605 Lucas County
Permit:	P0123395, Permit-To-Install - Initial Installation
A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in the Toledo Blade on 12/13/2017. The comment period ended on 01/22/2018.	
Hearing date (if held)	01/18/2018
Hearing Public Notice Date (if different from draft public notice)	

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

To help you review this document, the questions are grouped by topic and organized in a consistent format. Copies of the original comments in the format submitted are available upon request.

1. Topic: Permit Requirements

- a. Comment: The draft permit was not provided during the presentation. The permit listed tons per year as allowable facility emissions, what is the parts per million (ppm) allowable of each pollutant per day? Is there a maximum for short term of any sort? The refinery nearby has specific targets for each of the pollutants that include short term limits to avoid the noxious yellow haze produced from an emission all at once. Ohio EPA must require all emissions sources to have per hour and annual limitations. Some have only annual limitations. Reformer Exhaust – there are no per hour emission limitations – there has to be time rate process limits based on heat input.
- b. *Response: The public notice, news release and citizen advisory for the issuance of the draft permit and public hearing included an internet link to download a copy of the draft air permit. A copy of the draft permit was not included in the PowerPoint presentation, since it was made available for download from the internet.*

Ohio EPA expresses emissions limitations in air permits in a variety of ways, which can include ppm concentration limits and many other types of limits. The limits chosen to be placed into the permit come from either applicable rules or applicable guidance. In the IronUnits air permit there are only three emissions units where concentration limits are specified: a maximum sulfur

proposed to be located, the effects of surface roughness and terrain are expected to diminish observed wind speeds. This suggests that the nine miles per hour wind speed used to calculate the emission rate of the fugitive sources is conservative.

- o. Comment: The application indicates a predicted violation of NO_x, predicted area violation of 1-hr NO₂ NAAQS and predicted area violation of 24-hr PM_{2.5} NAAQS and predicted marginal area compliance with annual PM_{2.5} NAAQS.
- p. *Response: Based on the modeled exceedances, the facility conducted a culpability analysis which demonstrated that facility impacts contribute insignificantly to the modeled exceedances. In other words, the modeled exceedances were from other existing sources, not from the IronUnits facility.*

9. Environmental Justice

- a. Comment: I would really like to find someone who could for the area and environmental justice area and the Birmingham area look at this permit to see if in fact this is really best available technology and there could be improvements to this plant; if it's built, to make sure citizens are okay. The issue is environmental justice for East Toledo.

I am a citizen concerned about low income people in neighborhoods suffering from the results of decisions that are made that they're not aware of. And I'm one of those people who just kind of heard something just a few days ago and wondering what's going on and not having the resources to really process this information.

The permit does not address Environmental Justice to the community across the rail road tracks and the impacts to the quality of their lives and the reduction in property values.

- b. *Response: We have fully reviewed the guidance developed by U.S. EPA for states regarding environmental justice. We meet our legal obligations and implement federal guidance through both our technical review and our public involvement activities on permit applications.*

Additionally, any recipient of federal funding, such as Ohio EPA, must comply with Title VI of the Civil Rights code. Under U.S. EPA's Title VI implementing regulations, states are prohibited from using criteria or methods of administering its program which have the effect of subjecting individuals to discrimination because of their race, color or national origin. As a result, states may not issue permits that are intentionally discriminatory, or issue permits that have a discriminatory effect based on race, color or national origin. While we do not have a specific environmental justice policy in Ohio, we consider all comments raised regarding Environmental Justice to ensure we comply with Title VI.

For more information on Environmental Justice, please visit U.S. EPA's website: <http://www.epa.gov/oecaerth/environmentaljustice/index.html>

In terms of protecting public health and welfare, Ohio EPA's air permit evaluation process applies equally to all areas of Ohio, including communities with potential Environmental Justice concerns. The program is designed to ensure that no matter where the new facility is located, public health and welfare will be protected.

Attachment 9

Excerpt



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

8/17/2017

Certified Mail

Yes	TOXIC REVIEW
Yes	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
Yes	CEMS
Yes	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
Yes	MODELING SUBMITTED
Yes	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Mr. William Siderewicz
Oregon Energy Center
24 Proctor Street
Manchester, MA 01944

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0448020113
Permit Number: P0121049
Permit Type: Initial Installation
County: Lucas

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, Toledo Blade. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049

and Toledo Department of Environmental Services
348 South Erie Street
Toledo, OH 43604

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Toledo Department of Environmental Services at (419)936-3015.

Sincerely,

Michael E. Hopkins, P.E.
Assistant Chief, Permitting Section, DAPC

Cc: U.S. EPA Region 5 - Via E-Mail Notification
TDES; Michigan; Indiana; Canada

AMBIENT AIR QUALITY MONITORING REQUIREMENTS

The area where the facility is located is attainment for all criteria pollutants. U.S. EPA regulations require the establishment of baseline air quality in the vicinity of the proposed project. This is normally accomplished using representative air quality monitoring data. Air quality monitoring can be utilized to demonstrate that the project will have less than a threshold impact. This threshold impact is identified as the PSD monitoring de minimus level. If the projected impact from the proposed project exceeds this level, ambient data must be collected or existing representative data must be identified.

Oregon Energy Center has conducted ambient air quality modeling to determine the potential impact due to the proposed installation. Potential impacts for CO, PM₁₀, PM_{2.5} and NO₂ are below the PSD monitoring de minimus concentrations.

MODELING

Air quality dispersion modeling was conducted to assess the effects of the proposed project on national ambient air quality standards (NAAQS) and PSD increments. AERMOD (version 16216r) was used in the regulatory default, rural dispersion mode. Five years of meteorological data (2010-2014) from the Toledo surface station (KTOL, WBAN #94830) and Detroit, MI upper air station (KDTX, WBAN #4830) were used. Building downwash from nearby structures was incorporated into the AERMOD estimates.

Predicted impacts of CO, PM₁₀, SO₂ and NO₂ were below their corresponding PSD significant impact increments, demonstrating that the project has insignificant impacts with respect to these pollutants. As such, no additional modeling is necessary to demonstrate further that both the NAAQS and PSD increments for these pollutants are protected.

Maximum Predicted Impacts (all concentrations are in ug/m3)

Pollutant	Averaging Period	Maximum Concentration	SIL
NO2	1-Hour	5.59	7.5
NO2	Annual	0.25	1
CO	1-Hour	273.34	2000
CO	8-Hour	53.76	500
PM10	24-Hour	3.37	5
PM10	Annual	0.28	1
PM2.5	24-Hour	1.15	1.2
PM2.5	Annual	0.1	0.2
SO2	1-hour	2.02	7.9
SO2	3-hour	2.04	25
SO2	24-hour	0.45	5
SO2	Annual	0.02	1

PSD Increment and NAAQS

Interactive PSD Increment modeling was submitted and reviewed for 24-hour PM_{2.5}. An additional modeling assessment of 1-hour NO₂ under SU/SD conditions was also submitted and reviewed. Modeling for the 24-hour PM_{2.5} PSD Increment showed a maximum incremental predicted impact below one half of the PSD Increment.

24-hour PM2.5 Increment Analysis (all concentrations are in ug/m3)

Pollutant	Averaging Period	Project Impact	Other Source Impact	Cumulative Impact	PSD Increment
PM2.5	24-hour	1.32	0.5	1.82	9

An additional demonstration for 1-hour NO₂ was conducted considering SU/SD conditions, whereby these conditions are modeled inclusive of background only (no interactive sources).

This demonstrates that the infrequent SU/SD conditions will not cause an exceedance of the 1-hour NO₂ NAAQS. The results of this demonstration are presented below.

1-hour NO2 SU/SD NAAQS Analysis (all concentrations are in ug/m3)

Pollutant	Averaging Period	Project Impact	Background	Total Impact	NAAQS
NO2	1-hour	47.25	87.1	134.4	188

Attachment 10

Excerpt

TECHNICAL FACT SHEET

May 16, 2018

Purpose and Summary

The Michigan Department of Environmental Quality (MDEQ), Air Quality Division (AQD), is proposing to act on Permit to Install (PTI) application No. 19-18 from DTE Electric Company – Belle River Combined Cycle (DTE). The permit application is for the proposed installation and operation of a new natural gas fired combined cycle power plant. The proposed project is subject to permitting requirements of the MDEQ's Rules for Air Pollution Control and the state and federal Prevention of Significant Deterioration (PSD) regulations. Prior to acting on this application, the AQD is holding a public comment period and a public hearing to allow all interested parties the opportunity to comment on the proposed PTI. All relevant information received during the comment period and hearing will be considered by the decision maker prior to taking final action on the application.

Background Information

The new combined cycle plant is proposed to be located at 4505 King Road, China Township, St. Clair, County, Michigan. That location is on land currently owned by DTE and near their existing Belle River and St. Clair coal fired power plants. For regulatory purposes the three plants will be considered a single stationary source. DTE intends to retire the two existing plants from service once the new combined cycle plant is operational. It will have a capacity of 1,150 megawatts and is estimated to produce enough electricity to power over 1,000,000 homes.

Proposed Facility and Present Air Quality

The proposed combined cycle power plant will provide electric generation and utilize GE 7HA.02 combustion turbine technology. Each combustion turbine generator (CTG) is connected to a heat recovery steam generator (HRSG), creating a single emission unit, which is referred to as a CTG/HRSG train. To reduce emissions of nitrogen oxides (NO_x), the high efficiency CTG/HRSG trains will be equipped with dry low-NO_x burners (DLNB) and selective catalytic reduction (SCR), and to reduce the emissions of carbon monoxide (CO) and volatile organic compounds (VOCs), they will be equipped with oxidation catalysts.

The plant will consist of the following equipment:

- Two natural gas-fired CTGs rated at 3,658 million British Thermal Units per hour (MMBTU/hr) each;
- Two HRSGs, each equipped with an 800 MMBTU/hr duct burner;
- One natural gas-fired auxiliary boiler rated at 99.9 MMBTU/hr;
- Two natural gas-fired fuel heaters, one rated at a maximum fuel firing rate of 20.8 MMBTU/hr and the other rated at a maximum fuel firing rate of 3.8 MMBTU/hr
- One 2,000 kilowatt diesel fired emergency reciprocating internal combustion engine;
- One 399 brake horsepower (bhp) emergency diesel fire pump;
- 16 liquid storage tanks used to store diesel fuel, aqueous ammonia, and various different oils;
- Space heating equipment, approximately 67 individual natural gas space heaters with a combined heat capacity of approximately 7.3 MMBtu/hr;
- One wet mechanical draft cooling tower equipped with drift eliminators.

- **Rule 702 VOC Emissions** – This rule requires an evaluation of the following four items to determine what will result in the lowest maximum allowable emission rate of VOCs:
 - a. BACT or a limit listed by the department on its own initiative.
 - b. New Source Performance Standards (NSPS).
 - c. VOC emission rate specified in another permit.
 - d. VOC emission rate specified in the Part 6 rules for existing sources.

The VOC emissions are also subject to PSD review for this project. A top down BACT analysis was performed under the PSD regulations for all VOC sources. Specific VOC emission limits and control equipment requirements were determined to represent BACT under this review. The PSD BACT determinations satisfy the BACT requirements per Rule 702(a).

- **Criteria Pollutants Modeling Analysis** – Computer dispersion modeling was performed to predict the impacts of air emissions from NO_x, CO, PM₁₀, PM_{2.5}, and SO₂. NO_x refers specifically to nitrogen oxide and NO₂, with the larger portion being NO₂. NO₂ is a highly reactive gas and is the pollutant for which the USEPA established a NAAQS. For this modeling demonstration, NO_x was assumed to be 100 percent NO₂, which is a conservative evaluation. Emissions from the proposed facility were evaluated against both the NAAQS and the PSD increments. The NAAQS are intended to protect public health. The PSD increments are intended to allow industrial growth in an area, while ensuring that the area will continue to meet the NAAQS.

To determine the predicted impacts, the dispersion modeling utilized two operating scenarios for the project and the worst-case impact for each criteria pollutant, for each averaging time. The two operating scenarios were for baseload operation and startup operation. The emergency engine has an operational restriction of 500 hours per year, and the fire pump engine has an operational restriction of 100 hours per year. The engines also have daily hours restrictions of 4 hours per day and 1 hour per day, except during emergency conditions, for the emergency engine and the fire pump engine, respectively. They were modeled as intermittent sources during the baseload operation and were not included in the startup modeling. The CTG/HRSG trains also utilized annualized emission rates for the startup modeling.

The first step in this evaluation is to determine the predicted impacts from the proposed project. After the impacts are determined, they are compared to the applicable PSD Significant Impact Levels (SILs). If the project impacts are less than the SIL, then no further review is required. The following table considers the potential emissions from the proposed project for NO_x, CO, PM₁₀, PM_{2.5}, and SO₂ and compares them to their respective SILs.

Table 2: Significant Impact Levels (SIL)

Pollutant	Averaging Period	SIL (ug/m ³)	Total Maximum Impact (ug/m ³)	Below SIL?
NOx	1-Hour	7.5	43.2	No
	Annual	1	0.5	Yes
CO	1-Hour	2,000	506.8	Yes
	8-Hour	500	46.9	Yes
SO2	1-Hour	7.8	2.0	Yes
	3-Hour	25	2.3	Yes
	24-Hour	5	0.9	Yes
	Annual	1	0.03	Yes
PM10	24-Hour	5	2.5	Yes
	Annual	1	0.2	Yes
PM2.5	24-Hour	1.2	1.5	No
	Annual	0.3	0.1	Yes

As the modeled impacts for both NOx on a 1-hour average and PM2.5 on a 24-hour average exceeded all of their respective SILs, facility-wide NAAQS and PSD Increment modeling analysis was required for them.

The PSD increments are compared against the total facility impact plus other increment consuming facilities nearby. In the NAAQS analysis, the total facility impact includes additional nearby facilities, or offsite sources. The total facility impact and the background concentrations, which is data from ambient air monitors, are summed and compared to the NAAQS.

As the following tables show, the emissions of PM2.5 on a 24-hour average and NOx on a 1-hour average from the proposed project will meet their respective PSD Increments and NAAQS.

Table 3: PSD Increment Modeling Impacts

Pollutant	Averaging Time	PSD Increment (ug/m ³)	Predicted Impact (ug/m ³)	Percent of Increment (%)
PM2.5	24-hr	9	0.1	0.7

Please note, there is not a PSD increment for NOx on a 1-hour average.

Table 4: NAAQS Modeling Impacts

Pollutant	Averaging Time	NAAQS (ug/m ³)	Predicted Impact (ug/m ³)*	Percent of NAAQS (%)
PM2.5	24-hr	35	25.5	72.9
NOx	1-hr	188	175.5	93.3

*Includes background data.

There is an 8-hour NAAQS for ozone, but no PSD increment. Ground-level ozone concentrations are the result of photochemical reactions among various chemical species. The chemical species that contribute to ozone formation, referred to as ozone precursors, include NO_x and VOC emissions from both anthropogenic (e.g., mobile and stationary sources) and natural sources (e.g., vegetation). The facility will emit both NO_x and VOC at levels greater than 100 tpy, thus triggering the ozone ambient impact analysis requirements of R 336.2809 and 40 CFR 51.166.

The secondary formation of ozone, or conversion of the precursors, is not instantaneous; it happens over time and is highly dependent upon weather conditions. Therefore, the conversion is often completed after the precursors have been dispersed away from the immediate area. Because of this, ozone formation is recognized as a long-range transport issue. As a result, there are no effective modeling methods for ozone for single sources: the ozone modeling programs address larger areas of land and air movements and therefore must include many sources.

To address if a project may cause or contribute to a violation of the ozone NAAQS, the ozone precursors, NO_x and VOC are evaluated. DTE followed guidance defined in the USEPA guideline on Air Quality Models for addressing single source impacts of secondary pollutants. Specifically, DTE used the methodology provided in USEPA guidance memo, *Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and PM_{2.5} under the PSD Permitting Program (2/23/17)*, to determine the secondary pollutant impact resulting from the proposed DTE project. The ozone impact, resulting from the proposed project, was less than the 1.0 parts per billion SIL and is therefore not expected to cause or contribute to any violation of the ozone NAAQS standard.

Preconstruction monitoring is required for at least one year for each criteria pollutant proposed to be emitted that triggers PSD review. Through guidance, the USEPA allows the use of existing regional data, if representative, as an alternative to the preconstruction monitoring. DTE requested to use existing data and to receive a waiver from preconstruction monitoring. The AQD determined that the data is representative and granted the waiver request.

- **Additional Impact Analysis** – An additional impact analysis is required for new major sources pursuant to 40 CFR 52.21(o) and Michigan Air Pollution Control Rule 336.2815. This analysis is necessary to evaluate the impacts from the proposed project on soils, vegetation, visibility and growth.

The proposed project emissions are not anticipated to have a negative impact on soils, vegetation, wildlife, or visibility, and to have minimal impact on growth once construction is completed.

Soils, Vegetation, and Wildlife

The secondary NAAQS have been determined by the USEPA to be protective of soils, vegetation, and wildfire. DTE evaluated the secondary NAAQS using dispersion modeling. All PSD pollutants with secondary NAAQS were below their respective standards. VOCs and H₂SO₄ were evaluated through the TAC analysis required in Michigan Air Pollution Control Rule 336.1225. This evaluation showed that the impacts from the project are below their respective health-based screening levels.

Attachment 11

Excerpt

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



EXAMPLE A

COMBINED NOTICE OF PUBLIC MEETING AND NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR AN AIR QUALITY PERMIT

PROPOSED AIR QUALITY PERMIT NUMBERS: 146425, PSDTX1518, and GHGPSDTX170

APPLICATION AND PRELIMINARY DECISION. GCGV Asset Holding LLC, 1735 Hughes Landing Blvd., The Woodlands, TX 77380-1688, has applied to the Texas Commission on Environmental Quality (TCEQ) for issuance of Proposed Air Quality Permit 146425, and Prevention of Significant Deterioration (PSD) Air Quality Permits PSDTX1518 and GHGPSDTX170, which would authorize construction of a petrochemicals and plastics manufacturing complex south of Highway 181 and west of FM RD 2986, Gregory, San Patricio County, Texas 78390. This application was processed in an expedited manner, as allowed by the commission's rules in 30 Texas Administrative Code, Chapter 101, Subchapter J. This application was submitted to the TCEQ on April 19, 2017. The proposed facility will emit the following air contaminants in a significant amount: carbon monoxide, greenhouse gases, nitrogen oxides, organic compounds, and particulate matter, including particulate matter with diameters of 10 microns or less (PM₁₀) and 2.5 microns or less (PM_{2.5}). In addition, the facility will emit the following air contaminants: exempt solvents, hazardous air pollutants, ammonia, ethylene oxide, hydrogen sulfide, sulfur dioxide, and sulfuric acid mist.

The degree of PSD increment predicted to be consumed by the proposed facility and other increment-consuming sources in the area is as follows:

PM₁₀

Maximum Averaging Time	Maximum Increment Consumed (µg/m ³)	Allowable Increment (µg/m ³)
24-hour	9.8	30
Annual	1.5	17

Nitrogen Dioxide

Maximum Averaging Time	Maximum Increment Consumed (µg/m ³)	Allowable Increment (µg/m ³)
Annual	4.1	25

PM_{2.5}

Maximum Averaging Time	Maximum Increment Consumed (µg/m ³)	Allowable Increment (µg/m ³)
24-hour	8.95	9
Annual	1.35	4

Preliminary Determination Summary

Permit Numbers: 146425, PSDTX1518, and GHGPSDTX170

Page 12

GCGV has not finalized the selection of its emergency-use engines. The permit requires that an alteration be obtained prior to the start of operations which specifies as-installed design capacities and mass emission rate limits for each engine.

Emissions of Greenhouse Gases

Permit GHGPSDTX170 includes control requirements for sources of greenhouse gases as follows, representing BACT for sources of GHG emissions:

Pyrolysis Furnaces

Pyrolysis furnaces must use an automated air/fuel controller to ensure efficient operation, which is to be demonstrated by maintaining the stack temperature to no more than 340°F on a rolling 365-day average, not including periods of startup, shutdown, decoking or hot steam standby.

Boilers

The boilers must operate with a thermal efficiency of at least 77 percent on a rolling 12-month average, based on the gross (higher) heating value of the fuel.

Glycol Plant CO₂ Regeneration Vent

Operation of the Glycol plant with a high selectivity (to minimize formation of by-product CO₂) is BACT for this source. No add-on control is required for CO₂ emissions from the regeneration vent (control is required for VOC). The permit requires a mass balance calculation be performed to demonstrate compliance with the GHG emission limits for the Glycol plant.

Other sources of GHG

For other sources of GHG (thermal control devices, site MSS activities, piping leaks and emergency engines), BACT consists of good combustion and operational practices to minimize emissions of methane. Control requirements in the traditional pollutants permits ensure application of BACT for GHG for these sources.

VII. Air Quality Analysis

The air quality analysis (AQA) is acceptable for all review types and pollutants. The results are summarized below.

A. De Minimis Analysis

A De Minimis analysis was initially conducted to determine if a full impacts analysis would be required. The De Minimis analysis modeling results indicate that PM₁₀, PM_{2.5}, and NO₂ exceed the respective de minimis concentrations and require a full impacts analysis. The De Minimis analysis modeling results for CO indicate that the project is below the respective de minimis concentrations and no further analysis is required.

Preliminary Determination Summary

Permit Numbers: 146425, PSDTX1518, and GHGPSDTX170

Page 13

The justification for selecting the EPA’s interim 1-hr NO₂ De Minimis level was based on the assumptions underlying EPA’s development of the 1-hr NO₂ De Minimis level. As explained in EPA guidance memoranda¹, the EPA believes it is reasonable as an interim approach to use a De Minimis level that represents 4% of the 1-hr NO₂ NAAQS.

The applicant provided an evaluation of ambient PM_{2.5} monitoring data, consistent with EPA guidance for PM_{2.5}², for using the PM_{2.5} De Minimis levels in the NAAQS analysis. If monitoring data show that the difference between the PM_{2.5} NAAQS and the monitored PM_{2.5} background concentrations in the area is greater than the PM_{2.5} De Minimis level, then the proposed project with predicted impacts below the De Minimis level would not cause or contribute to a violation of the PM_{2.5} NAAQS and does not require a full impacts analysis. See the discussion below in the Air Quality Monitoring section for additional information on the evaluation of ambient PM_{2.5} monitoring data.

The applicant also provided an evaluation of ambient PM_{2.5} monitoring data for using the PM_{2.5} De Minimis levels in the PSD Increment analysis. If the difference between the PM_{2.5} increment and the change in ambient monitored PM_{2.5} background concentrations in the area is greater than the PM_{2.5} De Minimis level, then the use of the De Minimis levels are reasonable. See the discussion below in the Increment Analysis section for additional information on the evaluation of ambient PM_{2.5} monitoring data.

Table 1. Modeling Results for PSD De Minimis Analysis in Micrograms Per Cubic Meter (µg/m³)

Pollutant	Averaging Time	GLCmax (µg/m ³)	De Minimis (µg/m ³)
PM ₁₀	24-hr	8.3	5
PM ₁₀	Annual	1.03	1
PM _{2.5}	24-hr	8.5	1.2
PM _{2.5}	Annual	0.96	0.3
NO ₂	1-hr	17.7	7.5

¹

www.tceq.texas.gov/assets/public/permitting/air/memos/guidance_1hr_no2naaqs.pdf

² www.epa.gov/ttn/scram/guidance/guide/Guidance_for_PM25_Permit_Modeling.pdf

Preliminary Determination Summary

Permit Numbers: 146425, PSDTX1518, and GHGPSDTX170

Page 14

Pollutant	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	De Minimis ($\mu\text{g}/\text{m}^3$)
NO ₂	Annual	1.3	1
CO	1-hr	319	2000
CO	8-hr	144	500

The 1-hr NO₂ GLCmax is based on the highest five-year average of the maximum predicted concentrations determined for each receptor. The GLCmax for all other pollutants and averaging times represent the maximum predicted concentrations associated with five years of meteorological data.

B. Air Quality Monitoring

The De Minimis analysis modeling results indicate that PM₁₀, NO₂, and CO are below their respective monitoring significance levels.

Table 2. Modeling Results for PSD Monitoring Significance Levels

Pollutant	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	Significance ($\mu\text{g}/\text{m}^3$)
PM ₁₀	24-hr	8.3	10
NO ₂	Annual	1.3	14
CO	8-hr	144	575

The GLCmax are the maximum predicted concentrations associated with five years of meteorological data.

The applicant evaluated ambient PM_{2.5} monitoring data to satisfy the requirements for the pre-application air quality analysis.

Background concentrations for PM_{2.5} were obtained from the EPA AIRS monitor 483550034 located at 5707 Up River Rd., Corpus Christi, Nueces County. The applicant calculated a three-year average (2014-2016) of the 98th percentile of the annual distribution of 24-hr average concentrations for the 24-hr value (22 $\mu\text{g}/\text{m}^3$). The applicant calculated a three-year average (2014-2016) of the annual means for the annual value (9 $\mu\text{g}/\text{m}^3$). The use of the monitor is reasonable based on the applicant's analysis of the surrounding land use and a quantitative review of emissions sources in the

Preliminary Determination Summary

Permit Numbers: 146425, PSDTX1518, and GHGPSDTX170

Page 15

surrounding area of the monitor site relative to the project site. These background concentrations were also used as part of the NAAQS analysis.

C. National Ambient Air Quality Standards (NAAQS) Analysis

The De Minimis analysis modeling results indicate that PM₁₀, PM_{2.5}, and NO₂ exceed the respective de minimis concentrations and require a full impacts analysis. The full NAAQS modeling results indicate the total predicted concentrations will not result in an exceedance of the NAAQS.

Table 3. Total Concentrations for PSD NAAQS (Concentrations > De Minimis)

Pollutant	Averaging Time	GLCmax (µg/m ³)	Background (µg/m ³)	Total Conc. = [Background + GLCmax] (µg/m ³)	Standard (µg/m ³)
PM ₁₀	24-hr	8.4	67	75.4	150
PM _{2.5}	24-hr	5.1	22	27.1	35
PM _{2.5}	Annual	1.3	9	10.3	12
NO ₂	1-hr	102.2	61	163.2	188
NO ₂	Annual	3.7	11.6	15.3	100

The PM₁₀ GLCmax is the maximum high, sixth high (H6H) predicted concentration associated with five years of meteorological data. The 1-hr NO₂ GLCmax is the highest five-year average of the 98th percentile of the annual distribution of the predicted daily maximum 1-hr concentrations determined for each receptor. The 24-hr PM_{2.5} GLCmax is the highest five-year average of the 98th percentile of the annual distribution of the predicted 24-hr concentrations determined for each receptor. The annual NO₂ and annual PM_{2.5} GLCmax are the maximum predicted concentrations associated with five years of meteorological data.

Background concentrations for PM₁₀ were obtained from the EPA AIRS monitor 483550034 located at 5707 Up River Rd., Corpus Christi, Nueces County. The applicant used the highest high, second high 24-hr concentration from 2014-2016 for the 24-hr value. The use of the monitor is reasonable based on the applicant’s analysis of the surrounding land use and a quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site.

Preliminary Determination Summary

Permit Numbers: 146425, PSDTX1518, and GHGPSDTX170

Page 16

Background concentrations for NO₂ were obtained from the EPA AIRS monitor 482450009 located at 1086 Vermont Ave., Beaumont, Jefferson County. The three-year average (2014-2016) of the 98th percentile of the annual distribution of the maximum daily 1-hr concentrations was used for the 1-hr value. The highest annual concentration from 2014-2016 was used for the annual value. The use of the monitor is reasonable based on the applicant's analysis of the surrounding land use and a quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site.

The applicant performed an analysis on secondary PM_{2.5} formation as part of the PSD AQA for both the NAAQS and PSD Increment analyses. The applicant evaluated project emissions of PM_{2.5} precursor emissions (NO_x and SO₂). The project will result in a proposed increase of NO_x emissions greater than 40 tons per year (tpy) and a proposed increase of SO₂ emissions less than 40 tpy. The applicant also considered the NO_x and SO₂ emissions from Corpus Christi Liquefaction LLC in the secondary PM_{2.5} formation analysis since the site is currently being constructed and is not yet operating.

Since the project SO₂ emissions are less than the PM_{2.5} precursor significant emission rate (SER) for SO₂, significant secondary PM_{2.5} formation due to the proposed SO₂ emissions is not expected.

For the project NO_x emissions, as well as for the Corpus Christi Liquefaction LLC NO_x and SO₂ emissions, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with the EPA's Guideline on Air Quality Models (GAQM). Specifically, the applicant used a Tier 1 demonstration tool developed by the EPA referred to as Modeled Emission Rates for Precursors (MERPs). The basic idea behind the MERPs is to use technically credible air quality modeling to relate precursor emissions and peak secondary pollutants impacts from a source. Using data associated with the 1000 tpy Harris County source, the applicant estimated 24-hr and annual secondary PM_{2.5} concentrations of 0.58 µg/m³ and 0.03 µg/m³, respectively. When these estimates are added to the total concentrations listed in Table 3 above, the results are less than the NAAQS. Though the applicant provided an analysis to support using data from the Harris County source, the applicant did not support using the 1000 tpy source data. Using data associated with the 3000 tpy Harris County source would have been more appropriate given the total NO_x emissions considered in the analysis. However, using data from the 3000 tpy source will not significantly affect the overall results.

Preliminary Determination Summary

Permit Numbers: 146425, PSDTX1518, and GHGPSDTX170

Page 17

Table 4. PSD Ambient Air Quality Analysis for Ozone

Pollutant	Monitor	Averaging Time	Background (ppb)	Standard (ppb)
O ₃	48355002 5	8-hr	64	70

Background concentrations for O₃ were obtained from the EPA AIRS monitor 483550025 located at 902 Airport Blvd., Corpus Christi, Nueces County. The three-year average (2014-2016) of the annual fourth highest daily maximum 8-hr concentrations was used in the analysis. The use of the monitor is reasonable based on the applicant's analysis of the surrounding land use and a quantitative review of emissions sources in the surrounding area of the monitor site relative to the project site.

The applicant performed an O₃ analysis as part of the PSD AQA. The applicant evaluated project emissions of O₃ precursor emissions (NO_x and VOC). The applicant also considered the NO_x and VOC emissions from Corpus Christi Liquefaction LLC in the O₃ analysis since the site is currently being constructed and is not yet operating.

For the project NO_x and VOC emissions, the applicant provided an analysis based on a Tier 1 demonstration approach consistent with the EPA's GAQM. Specifically, the applicant used a Tier 1 demonstration tool developed by the EPA referred to as MERPs. As noted above, the basic idea behind the MERPs is to use technically credible air quality modeling to relate precursor emissions and peak secondary pollutants impacts from a source. Using data associated with the 1000 tpy Harris County source, the applicant estimated an 8-hr O₃ concentration of 1 part per billion (ppb). Though the applicant provided an analysis to support using data from the Harris County source, the applicant did not support using the 1000 tpy NO_x source data. Using data associated with the 500 tpy Harris County NO_x source would have been more appropriate given the project NO_x emissions considered in the analysis. However, using data from the 500 tpy NO_x source will not significantly affect the overall results.

To account for the NO_x and VOC emissions from Corpus Christi Liquefaction LLC, the applicant reported the estimated O₃ concentration (4.4 ppb) provided by Corpus Christi Liquefaction LLC, which was based on photochemical modeling. The photochemical modeling was conducted using the Comprehensive Air Quality Model with Extensions (CAMx) for the original permitting of Trains 1, 2, and 3. The photochemical modeling results were then used to evaluate updates in NO_x and VOC emissions to Trains 1, 2, and 3, as well as for new NO_x and VOC emissions from Trains 4 and 5.

Preliminary Determination Summary

Permit Numbers: 146425, PSDTX1518, and GHGPSDTX170

Page 18

When the estimates of ozone concentrations from the project emissions and from Corpus Christi Liquefaction LLC are added to the background concentration listed in Table 4 above, the result is less than the NAAQS.

D. Increment Analysis

The De Minimis analysis modeling results indicate that PM₁₀, PM_{2.5}, and NO₂ exceed the respective de minimis concentrations and require a PSD increment analysis.

Table 5. Results for PSD Increment Analysis

Pollutant	Averaging Time	GLCmax (µg/m ³)	Increment (µg/m ³)
PM ₁₀	24-hr	9.8	30
PM ₁₀	Annual	1.5	17
PM _{2.5}	24-hr	8.95	9
PM _{2.5}	Annual	1.35	4
NO ₂	Annual	4.1	25

The 24-hr GLCmax are based on the maximum high, second high (H2H) predicted concentrations associated with five years of meteorological data. The annual GLCmax are based on the maximum predicted concentrations associated with five years of meteorological data.

The GLCmax for 24-hr and annual PM_{2.5} reported in Table 5 represent the total predicted concentrations associated with modeling the direct PM_{2.5} emissions and the contributions associated with secondary PM_{2.5} formation (discussed above in the NAAQS Analysis section).

The applicant used representative monitoring data to justify using the PM_{2.5} De Minimis levels for the PSD Increment analysis. Ambient concentrations for PM_{2.5} were obtained from the EPA AIRS monitor 483550034 located at 5707 Up River Rd., Corpus Christi, Nueces County. The applicant evaluated the difference in ambient concentrations for the time period between the most recent complete year and the major source baseline date (2010-2016). A comparison of the 24-hr H2H and annual monitored concentrations for 2010 and 2016 show a change in ambient concentrations of 4.9 µg/m³ and -0.7 µg/m³, respectively. When the changes in ambient concentrations are subtracted from the applicable increments (9 µg/m³ and 4 µg/m³,

Preliminary Determination Summary

Permit Numbers: 146425, PSDTX1518, and GHGPSDTX170

Page 19

respectively), the differences are greater than the De Minimis levels. Therefore, the use of the PM_{2.5} De Minimis levels is reasonable. To support the use of this monitor as part of the PSD Increment evaluation, the applicant reviewed potential increment affecting emissions in the vicinity of the monitor site and the project site.

E. Additional Impacts Analysis

The applicant performed an Additional Impacts Analysis as part of the PSD AQA. The applicant conducted a growth analysis and determined that industrial, commercial, and residential services will not significantly increase as a result of the proposed project. The applicant conducted a soils and vegetation analysis and determined that all evaluated criteria pollutant concentrations are below their respective secondary NAAQS. The applicant meets the Class II visibility analysis requirement by complying with the opacity requirements of 30 TAC Chapter 111. The Additional Impacts Analyses are reasonable and possible adverse impacts from this project are not expected.

The ADMT evaluated predicted concentrations from the proposed site to determine if emissions could adversely affect a Class I area. The nearest Class I area, Big Bend National Park, is located approximately 560 kilometers (km) from the proposed site.

The H₂SO₄ 24-hr maximum predicted concentration of 0.06 µg/m³ occurred approximately 75 meters from the property line towards the south. The H₂SO₄ 24-hr maximum predicted concentration occurring at the edge of the receptor grid, approximately 25 km from the proposed sources, in the direction of the Big Bend National Park Class I area is 0.001 µg/m³. The Big Bend National Park Class I area is an additional 535 km from the edge of the receptor grid. Therefore, emissions of H₂SO₄ from the proposed project are not expected to adversely affect the Big Bend National Park Class I area.

The predicted concentrations of PM₁₀, PM_{2.5}, NO₂, and SO₂ for all averaging times, are all less than de minimis levels at a distance of approximately five km from the proposed sources in the direction of the Big Bend National Park Class I area. The Big Bend National Park Class I area is an additional 555 km from the location where the predicted concentrations of PM₁₀, PM_{2.5}, NO₂, and SO₂ for all averaging times are less than de minimis. Therefore, emissions from the proposed project are not expected to adversely affect the Big Bend National Park Class I area.

F. Minor Source NSR and Air Toxics Review

Preliminary Determination Summary

Permit Numbers: 146425, PSDTX1518, and GHGPSDTX170

Table 6. Site-wide Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax (µg/m ³)	Standard (µg/m ³)
SO ₂	1-hr	7.77	1021
H ₂ SO ₄	1-hr	0.6	50
H ₂ SO ₄	24-hr	0.06	15
H ₂ S	1-hr	18	108

The justification for selecting the EPA’s interim 1-hr SO₂ De Minimis level was based on the assumptions underlying EPA’s development of the 1-hr SO₂ De Minimis level. As explained in EPA guidance memoranda³, the EPA believes it is reasonable as an interim approach to use a De Minimis level that represents 4% of the 1-hr SO₂ NAAQS.

Table 7. Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax (µg/m ³)	De Minimis (µg/m ³)
SO ₂	1-hr	7.77	7.8
SO ₂	3-hr	6.7	25
SO ₂	24-hr	4.1	5
SO ₂	Annual	0.2	1

The GLCmax are the maximum predicted concentrations associated with one year of meteorological data.

Table 8. Minor NSR Site-wide Modeling Results for Health Effects

Pollutant & CAS#	Averaging Time	GLCmax (µg/m ³)	ESL (µg/m ³)
Ammonia 7664-41-7	1-hr	310	180
Ammonia 7664-41-7	Annual	0.5	92

³ www.epa.gov/sites/production/files/2015-07/documents/appwso2.pdf

Preliminary Determination Summary

Permit Numbers: 146425, PSDTX1518, and GHGPSDTX170

Page 21

Pollutant & CAS#	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	ESL ($\mu\text{g}/\text{m}^3$)
Benzene 71-43-2	1-hr	876	170
Benzene 71-43-2	Annual	0.7	4.5
Naphthalene 91-20-3	1-hr	265	440
Styrene 100-42-5	1-hr	152	110
Styrene 100-42-5	Annual	0.5	140
1,3-Butadiene 106-99-0	1-hr	522	510
1,3-Butadiene 106-99-0	Annual	0.6	9.9
Ethylene 74-85-1	1-hr	10694	1400
Ethylene 74-85-1	Annual	3	34
1-Hexene 592-41-6	1-hr	11204	1700
1-Hexene 592-41-6	Annual	6	170
n-Hexane 110-54-3	1-hr	15611	5600
n-Hexane 110-54-3	Annual	8	200
Dimethyl sulfide 75-18-3	1-hr	29.3	7.6
Dimethyl sulfide 75-18-3	Annual	0.01	25
Ethylene oxide 75-21-8	1-hr	94	20
Ethylene oxide 75-21-8	Annual	0.7	2
Acetaldehyde 75-07-0	1-hr	117	120
Ethylene glycol 107-21-1	1-hr	4273	450
Ethylene glycol 107-21-1	Annual	0.2	4.5

Preliminary Determination Summary

Permit Numbers: 146425, PSDTX1518, and GHGPSDTX170

Page 22

Pollutant & CAS#	Averaging Time	GLCmax (µg/m ³)	ESL (µg/m ³)
Diethylene glycol 111-46-6	1-hr	482	400
Diethylene glycol 111-46-6	Annual	0.02	40
Heavy coker gas oil 64741-81-7	1-hr	617	1000
Monoethanolamine 141-43-5	1-hr	114	97
Monoethanolamine 141-43-5	Annual	0.04	7
Sodium hydroxide 1310-73-2	1-hr	83	20
Sodium hydroxide 1310-73-2	Annual	0.02	2
Formaldehyde 50-00-0	1-hr	31.4	15
Formaldehyde 50-00-0	Annual	0.3	3.3
Dicyclopentadiene 77-73-6	1-hr	111	60
Dicyclopentadiene 77-73-6	Annual	0.01	27
Alkenes NA	1-hr	20066	5800
Alkenes NA	Annual	10	580

Table 9. Minor NSR Hours of Exceedance for Health Effects

Pollutant	Averaging Time	1 X ESL GLCmax	2 X ESL GLCmax	4 X ESL GLCmax
Ammonia	1-hr	3	0	0
Benzene	1-hr	21	5	1
Styrene	1-hr	1	0	0
1,3-Butadiene	1-hr	1	0	0
Ethylene	1-hr	18	8	3
1-Hexene	1-hr	22	6	1

Preliminary Determination Summary

Permit Numbers: 146425, PSDTX1518, and GHGPSDTX170

Page 23

Pollutant	Averaging Time	1 X ESL GLCmax	2 X ESL GLCmax	4 X ESL GLCmax
n-Hexane	1-hr	5	1	0
Dimethyl sulfide	1-hr	8	3	0
Ethylene oxide	1-hr	12	3	2
Ethylene glycol	1-hr	31	9	3
Diethylene glycol	1-hr	1	0	0
Monoethanolamine	1-hr	1	0	0
Sodium hydroxide	1-hr	10	4	1
Formaldehyde	1-hr	11	1	0
Dicyclopentadiene	1-hr	1	0	0
Alkenes	1-hr	6	1	0

Except for heavy coker gas oil, the GLCmax for all pollutants and averaging times are located along the property line. The GLCmax for heavy coker gas oil is located approximately 15 meters from the southern property line. The applicant evaluated the GLCmax as the GLCni.

Predicted GLCmax and hours of exceedance values for the constituents identified in Table 9 were reviewed by TCEQ Toxicology Division. Based on its review of the predicted impacts, Toxicology Division does not anticipate any short- or long-term adverse health effects to occur among the general public as a result of exposure to the proposed emissions from this facility.

G. Greenhouse Gases

EPA has stated that unlike the criteria pollutants for which EPA has historically issued PSD permits, there is no National Ambient Air Quality Standard (NAAQS) for GHGs, including no PSD increment. The global climate-change inducing effects of GHG emissions, according to the "Endangerment and Cause or Contribute Finding", are far-reaching and multi-dimensional (75 FR 66497). Climate change modeling and evaluations of risks and impacts are typically conducted for changes in emissions that are orders of magnitude larger than the emissions from individual projects that might be analyzed in PSD permit reviews. Quantifying the exact

Preliminary Determination Summary

Permit Numbers: 146425, PSDTX1518, and GHGPSDTX170

Page 24

impacts attributable to a specific GHG source obtaining a permit in specific places and points would not be possible [EPA's PSD and Title V Permitting Guidance for GHGs at 48]. Thus, EPA has concluded in other GHG PSD permitting actions it would not be meaningful to evaluate impacts of GHG emissions on a local community in the context of a single permit.

The TCEQ has determined that an air quality analysis would provide no meaningful data and has not required the applicant to perform one. As stated in the preamble to TCEQ's adoption of the GHG PSD program, the impacts review for individual air contaminants will continue to be addressed, as applicable, in the state's traditional minor and major NSR permits program per 30 TAC Chapter 116.

VIII. Conclusion

As described above, the applicant has demonstrated that the project meets all applicable rules, regulations and requirements of the Texas and Federal Clean Air Acts. The Executive Director's preliminary determination is that the permits should be issued.

Attachment 12

Excerpt

Illinois Environmental Protection Agency
Bureau of Air, Permit Section

Project Summary for a
Construction Permit Application from
Jackson Generation, LLC, for an
Electrical Generating Facility in
Elwood, Illinois

Source Identification No.: 197035ABD
Application No. 17040013
Date Received April 4, 2017

Schedule:
Public Comment Period Begins: September 21, 2018
Public Hearing: November 5, 2018
Public Comment Period Closes: December 5, 2018

Illinois EPA Contacts:
Permit Analyst: Bob Smet
Community Relations Coordinator: Brad Frost

Illinois Environmental Protection Agency
Bureau of Air, Permit Section

Jackson Energy Center
Project Summary

- Emission data provided by the applicant;
- The demonstrated ability of similar equipment to meet the proposed emission limits or control requirements;
- Compliance periods associated with limits that are consistent with guidance issued by USEPA;
- Emission limits that account for normal operational variability based on the equipment and control equipment design, when properly operated and maintained; and
- Review of emission limits and control efficiencies required of other similar new units as reported in the RBLC.

7. AIR QUALITY IMPACT ANALYSES AND ASSESSMENTS

7.1 Introduction

The previous discussions addressed emissions and emission standards. Emissions are the quantity of pollutants emitted by a source, as they are released to the atmosphere from various emission units. Standards are set to address the presence of contaminants in the air. The quality of air that people breathe is known as ambient air quality. Ambient air quality considers the emissions from a particular source after they have dispersed from the source following release from a stack or other emission point, in combination with pollutants emitted from other nearby sources and background pollutant levels. The level of pollutants in ambient air is typically expressed in terms of the concentration of the pollutant in the air. One form of this expression is parts per million (ppm). A more common scientific form for measuring air quality is "micrograms per cubic meter" ($\mu\text{g}/\text{m}^3$), which are millionths of a gram by weight of a pollutant contained in a cubic meter of air.

The USEPA has standards for the level of various pollutants in the ambient air. These ambient air quality standards are based on a broad collection of scientific data to define levels of ambient air quality where adverse human health impacts and welfare impacts may occur. As part of the process of adopting air quality standards, the USEPA compiles scientific information on the potential impacts of the pollutant into a "criteria" document. Hence the pollutants for which air quality standards exist are known as criteria pollutants. Based upon the nature and effects of a pollutant, appropriate numerical standards(s) and associated averaging times are set to protect against adverse impacts. For some pollutants several standards are set, for others only a single standard has been established.

As already discussed, areas can be designated as attainment or nonattainment for criteria pollutants, based on the existing air quality. The proposed facility would be in an area that is attainment or unclassified for all criteria pollutants except ozone. For an attainment area, the goal is to

Illinois Environmental Protection Agency
Bureau of Air, Permit Section

Jackson Energy Center
Project Summary

generally preserve the existing clean air resource and prevent increases in emissions which would result in nonattainment.²⁰

Compliance with air quality standards is determined by two techniques, monitoring and modeling. In monitoring, the levels of pollutants in the air are physically measured. This is important as monitoring provides data on actual air quality, considering actual weather and source operation. The Illinois EPA operates a network of ambient air monitoring stations across the state.

Monitoring is limited because one cannot operate monitors at all locations. One also cannot monitor to predict the effect of a future source, which has not yet been built, or to evaluate the effect of possible regulatory programs to reduce emissions. Modeling is used for these purposes. Modeling uses mathematical equations to predict ambient concentrations based on various factors, including the height of release, the velocity and temperature of exhaust gases, and weather data (speed, direction and atmospheric mixing). Modeling is performed by computer, enabling detailed estimates to be made of air quality impacts over a range of weather data. Modeling techniques are well developed for essentially stable pollutants like particulate matter, NO_x and CO, and can readily address the impact of individual sources. Modeling techniques for reactive pollutants, e.g., ozone, are more complex and have generally been developed for analysis of entire urban areas. As such, these modeling techniques are not applied to a single source with relatively small amounts of emissions.

Air quality analysis is the process of predicting ambient concentrations in an area that results from a project and comparing the concentration to the applicable air quality standards or other reference levels. Air quality analysis uses a combination of techniques as appropriate.

7.2 Air Quality Analysis for NO₂, PM₁₀, PM_{2.5}, and CO

An ambient air quality analysis was conducted by Jackson Generation to assess the impact of the emissions of the proposed project, considering both normal operations and startup scenarios. These analyses determined that the proposed facility will not cause or contribute to a violation of any applicable air quality standard for NO₂, PM₁₀, PM_{2.5} and CO. They also will not cause or contribute to violations of applicable PSD increments.

Introduction to the Hierarchy of Modeling

Significance Analysis (Step 1): The starting point for determining the extent of the modeling analysis for a proposed project is evaluating whether the project would have air quality impacts that are deemed "significant." The PSD rules identify Significant Impact Levels (SILs), which represent

²⁰ For a nonattainment area, measures must be taken to reduce emissions to improve air quality and work to bring the area into attainment. These measures, which are adopted by both USEPA and states, target the emissions of existing sources as the emissions of existing sources must be reduced to improve air quality.

Illinois Environmental Protection Agency
Bureau of Air, Permit Section

Jackson Energy Center
Project Summary

thresholds triggering a need for more detailed modeling.²¹ These thresholds are specified for all criteria pollutants, except ozone and lead.

Refined (Full Impact) Analysis (Step 2): For a pollutant for which modeled impacts are above the applicable SIL, more detailed "refined" or "full impact" modeling is performed. For a proposed facility, this modeling addresses the emissions units at the proposed facility and emission units at existing stationary sources in the general area in which the proposed facility would be located, as addressed by the emission inventory for the region. In addition, value(s) for the background levels of ambient air quality in the area for the pollutant, as determined from ambient monitoring, is added to the results of the modeling.

Refined Culpability Analysis (Step 3): For pollutants for which the refined or full impact modeling indicates modeled exceedance(s) of a NAAQS,²² a further culpability or "cause and contribute" analysis may be performed consistent with USEPA guidance to evaluate whether the proposed project should be considered to contribute to those exceedances.

Results of the Significant Impact Analysis

The results of the significance analysis are provided below.

Results of the Significance Analysis ($\mu\text{g}/\text{m}^3$)			
Pollutant	Averaging period	Maximum Predicted Impact	Significant Impact Level
NO ₂	1-hour	23.06	7.52
NO ₂	Annual	0.83	1
PM ₁₀	24-hour	2.52	5
PM ₁₀	Annual	0.19	1
CO	1-hour	470.79	2,000
CO	8-hour	221.64	500
PM _{2.5}	24-hour	2.41	1.2 ⁽¹⁾
PM _{2.5}	Annual	0.19	0.3 ⁽²⁾
SAM	Annual	0.05	N/A ⁽³⁾

(1) USEPA's recent guidance confirmed use of its Interim Significant Impact Level for PM_{2.5} on an a 24-hour average, 1.2 $\mu\text{g}/\text{m}^3$.²³

(2) At the time the air quality analysis was conducted, the significant impact level for PM_{2.5} on an annual average₅ was 0.3 $\mu\text{g}/\text{m}^3$. In the context of the USEPA's August 2016 guidance, which was in effect until recently, an

²¹ The significant impact levels do not correlate with health or welfare thresholds for humans, nor do they correspond to a threshold for effects on flora or fauna.

²² In the refined analysis, at times, exceedances of the NAAQS are initially modelled in the vicinity of existing sources in a region that are attributable to errors in the data in the inventory for that source. After those errors are corrected, a new refined modeling analysis will be conducted.

²³ USEPA, Office of Air Quality Planning and Standards, "Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program," April 17, 2018.

Illinois Environmental Protection Agency
Bureau of Air, Permit Section

Jackson Energy Center
Project Summary

evaluation was made on a case-by-case basis to decide whether or not the significant impact level should be kept at 0.3 $\mu\text{g}/\text{m}^3$ or lowered to 0.2 $\mu\text{g}/\text{m}^3$.^{24, 25} The direct $\text{PM}_{2.5}$ emissions of the facility will not measurably affect annual ambient air quality for $\text{PM}_{2.5}$ and will certainly not result in an exceedance of the annual NAAQS or PSD increment for $\text{PM}_{2.5}$.

(3) Sulfuric Acid Mist (SAM) does not have a defined SIL or NAAQS. The modeled total $\text{PM}_{2.5}$ emission rate included both filterable and condensable $\text{PM}_{2.5}$ emissions. Sulfuric acid mist will be emitted as a condensable particulate and was included in the calculation of total $\text{PM}_{2.5}$ emissions from the emission units. SAM emissions accounted for approximately 28% of the total PM_{10} emission rate; therefore, the maximum predicted SAM ambient concentration was estimated at 28% of the modeled $\text{PM}_{2.5}$ annual impact. As an additional evaluation of potential ambient impacts associated with SAM emissions, sulfate deposition modeling was performed. Results of the sulfate deposition modeling are discussed in Section 7.3 of this Project Summary.

The significant impact analysis (Step 1) shows that CO impacts of the proposed facility for both the 1-hour and 8-hour averaging periods are not significant. Accordingly, a refined (full impact) analysis was not required for CO.²⁶

The significant impact analysis also shows that impacts for the annual NO_2 , annual $\text{PM}_{2.5}$ and annual PM_{10} averaging periods are not significant. However,

²⁴ As explained by USEPA in its relevant guidance ("Guidance for $\text{PM}_{2.5}$ Permit Modeling," May 20, 2014, page 19):

If the preconstruction monitoring data are sufficiently representative of the air quality in existence before the increase in emissions from the proposed source and the difference between the $\text{PM}_{2.5}$ NAAQS and the measured $\text{PM}_{2.5}$ background concentrations in the area is greater than or equal to the SIL value selected from the vacated sections of Section 51.166(k) (2) and 52.21(k) (2), then the EPA believes it would be sufficient in most cases for permitting authorities to conclude that a source with an impact below that SIL value will not cause or contribute to a violation of the NAAQS.

²⁵ The USEPA has addressed the ramification of the court's vacatur of the SILs that it adopted for $\text{PM}_{2.5}$ in "Circuit Court Decision on $\text{PM}_{2.5}$ Significant Impact Levels and Significant Monitoring Concentration: Questions and Answers," March 4, 2013. In this guidance, page 3, USEPA states that:

The EPA does not interpret the Court's decision to preclude the use of SILs for $\text{PM}_{2.5}$ entirely but additional care should be taken by permitting authorities in how they apply those SILs so that the permitting record supports a conclusion that the source will not cause or contribute to a violation of the $\text{PM}_{2.5}$ NAAQS.

²⁶ The significant impact analysis may also be used to assess the need for project-specific ambient air quality data to satisfy the requirement of the PSD rules for pre-application air quality ambient monitoring (40 CFR 52.21(m)). For the $\text{PM}_{2.5}$ air quality analysis for this project, this requirement has been fulfilled by $\text{PM}_{2.5}$ air quality data collected at the Illinois EPA's Alsip monitoring station. Data collected at this station has been found to conservatively address air quality at the site of the proposed facility, which is more rural than the location of the Alsip Monitoring Station, which is in southern Cook County.

For PM_{10} , CO and NO_2 , the significant impact analysis for this project predicted maximum impacts from the proposed facility that are below the significant monitoring concentrations of the PSD rules at 40 CFR 52.21(i) (5); i.e., 10 $\mu\text{g}/\text{m}^3$, 24-hour average for PM_{10} ; 575 $\mu\text{g}/\text{m}^3$, 8-hour average for CO; and 14 $\mu\text{g}/\text{m}^3$, annual average for NO_2 .

Illinois Environmental Protection Agency
Bureau of Air, Permit Section

Jackson Energy Center
Project Summary

as modeled impacts are significant for PM_{2.5} on a 24-hour average and NO₂ on a 1-hour average, a refined (full impact) analysis (Step 2) was performed for these two pollutants and averaging periods.

Full Impact and Culpability Analyses for NO₂, 1-Hour Average

The refined (full impact) Step 2 analysis demonstrates that the proposed new emissions units at the facility, stationary sources in the surrounding area (from a regional inventory), and a background concentration, would exceed the NO₂ 1-hour NAAQS. A refined culpability analysis (Step 3) was performed for this pollutant and averaging period. The Step 3 refined culpability analysis, performed consistent with USEPA guidance, indicated that the proposed facility's impacts were insignificant during the 1-hour periods of the NO₂ NAAQS modeled exceedances.^{27, 28}

Full Impact and Culpability Analyses for PM_{2.5}, 24-Hour Average

The refined (full impact) Step 2 analysis demonstrates that the proposed new emissions units at the facility, stationary sources in the surrounding area (from a regional inventory), and a background concentration, would exceed the PM_{2.5} 24-hour NAAQS. A refined culpability analysis (Step 3) was performed for this pollutant and averaging period. The Step 3 refined culpability analysis, performed consistent with USEPA guidance, indicated that the proposed facility's impacts were insignificant during the 24-hour periods of the PM_{2.5} NAAQS modeled exceedances.²⁹

²⁷ For the full impact NAAQS evaluation, the worst case for normal operation was a hot start-up, the maximum modeled 1-hour NO₂ impacts, plus a background concentration, resulted in a maximum concentration of 306.92 µg/m³, compared to the NAAQS of 188.14 µg/m³. This maximum modeled concentration was dominated by impacts from the regional inventory; the contribution from the Jackson Energy Center was 0.00053 µg/m³, which was below the SIL (7.52 µg/m³). The Jackson Energy Center's largest contribution to any modeled 1-hour NO₂ NAAQS exceedance was 5.81 µg/m³, which was also below the SIL. Separate worst-case stand-alone runs involving infrequent scenarios that would not contribute enough annual hours of operation to the 1-hour NO₂ NAAQS averaging (e.g., operation of the emergency equipment) showed maximum 1-hour NO₂ concentrations of 30.18 µg/m³ and 139.58 µg/m³, for cold starts of generating units and operation of the emergency engines, respectively. Both of these modeled concentrations were below the NAAQS of 188.14 µg/m³.

²⁸ The USEPA has not established PSD increments for 1-hour NO₂, so a 1-hour NO₂ PSD increment analysis was not conducted.

²⁹ The worst-case scenario for the PM_{2.5} 24-hour averaging period featured both turbines operating at 100% load with duct firing during winter ambient conditions. The full impact NAAQS evaluation for this worst-case scenario, which included maximum modeled 24-hour PM_{2.5} impacts, plus a background concentration, resulted in a maximum concentration of 56.43 µg/m³, compared to the NAAQS of 35 µg/m³. This maximum modeled concentration was dominated by impacts from the regional inventory; the contribution from the Jackson Energy Center was 0.29 µg/m³ which was below the SIL (1.2 µg/m³). The Jackson Energy Center's largest contribution to any modeled 24-hour PM_{2.5} NAAQS exceedance was 0.65 µg/m³, which was also below the SIL (1.2 µg/m³).

Illinois Environmental Protection Agency
Bureau of Air, Permit Section

Jackson Energy Center
Project Summary

The refined (full impact) analysis demonstrates that the proposed project would not cause or contribute to a violation of the applicable PSD increment for 24-hour PM_{2.5}.³⁰

Secondary PM_{2.5}

In addition to being emitted directly from sources, PM_{2.5} can be formed in the atmosphere from emissions of precursor pollutants that gradually react in the atmosphere to form PM_{2.5}. The PM_{2.5} that forms in the atmosphere from precursor pollutants is referred to as "secondary PM_{2.5}." If the emissions of SO₂ or NO_x of a proposed major project subject to PSD are significant (i.e., 40 tons/year or more), USEPA has determined that SO₂ and/or NO_x emissions, as applicable, warrant assessment for their impact on ambient air quality for PM_{2.5} since emissions of SO₂ and NO_x may contribute to the formation of secondary PM_{2.5} in the atmosphere.³¹

As the proposed facility is not significant for SO₂ emissions, the facility's SO₂ emissions are not of concern for their contribution to secondary PM_{2.5}.³² However, given the proposed facility will be a significant source for NO_x emissions, the contribution of these emissions to secondary PM_{2.5} was considered. Several factors were qualitatively assessed to conclude that the facility will not have a significant contribution to secondary PM_{2.5} due to its NO_x emissions:³³

- PM speciation data from the closest PM monitor with available speciation data (speciation data collected during 2014-2016 in Alsip, Illinois, approximately 25 miles northeast of the proposed facility) show average sulfate and nitrate components that were both

³⁰ For the full impact analysis for consumption of 24-hour PSD Increment for PM_{2.5}, including emissions of new and modified sources already in the modeling domain that consume increment, the maximum modeled consumption of the 24-hour PM_{2.5} increment, 11.575 µg/m³, was higher than the applicable PSD Increment, 9 µg/m³. This occurred in the vicinity of another source and the contribution of the proposed facility, 0.28 µg/m³, was not significant. The greatest modeled consumption of the 24-hour PM_{2.5} increment by the proposed facility was 2.59 µg/m³.

³¹ Table II-1, EPA Recommended Assessment Cases that Define Needed Air Quality Analyses, "Guidance for PM_{2.5} Permit Modeling," May, 2014.

³² As discussed, since the facility's potential SO₂ emissions are less than 40 tons per year and the project is not subject to PSD for SO₂, air quality modeling was not performed for SO₂ air quality.

³³ The recommendations for a qualitative assessment for secondary PM_{2.5} from relevant USEPA guidance ("Guidance for PM_{2.5} Permit Modeling," May 2014) include a review of the regional background PM_{2.5} monitoring data and aspects of secondary PM_{2.5} formation from existing sources; the relative ratio of the combined modeled primary PM_{2.5} impacts and background PM_{2.5} concentrations to the level of the NAAQS; the spatial and temporal correlation of the primary and secondary PM_{2.5} impacts; meteorological characteristics of the region during periods of precursor pollutant emissions; the level of conservatism associated with the modeling of the primary PM_{2.5} component and other elements of conservatism built into the overall NAAQS compliance demonstration; aspects of the precursor pollutant emissions in the context of limitations of other chemical species necessary for the photochemical reactions to form secondary PM_{2.5}; and an additional level of NAAQS protection through a post-construction monitoring requirement.

Illinois Environmental Protection Agency
Bureau of Air, Permit Section

Jackson Energy Center
Project Summary

approximately 16-20% of the corresponding average total $PM_{2.5}$ concentration. Given those relatively small percentages, $PM_{2.5}$ precursor concentrations and secondary $PM_{2.5}$ formation are not considered to significantly affect background $PM_{2.5}$ concentrations near the proposed facility.

- Based on the speciation data from Chicago, sulfate and nitrates contribute approximately the same percentage (16% for sulfates; 20% for nitrates) to the measured $PM_{2.5}$ concentration levels. The Jackson Energy Center is designed to fire natural gas exclusively. As a result, expected project-related primary SO_2 emissions will not significantly contribute additional $PM_{2.5}$. Further, the Jackson Energy Center will use BACT and LAER control technologies to ensure that additional nitrates and sulfates resulting from precursor emissions will be reduced to the extent possible.
- The speciation data from Chicago suggest seasonal patterns in the measured nitrate and sulfate concentrations. The sulfate component tends to peak during the warmer months and the nitrate component tends to peak during the colder months. The fuel for the project, natural gas, will result in overall low sulfate concentrations. Therefore, the project is unlikely to impact the overall seasonal pattern of sulfate contributions or contribute to the relatively higher sulfate levels during the warmer season.
- The Jackson Energy Center will exclusively fire natural gas. Therefore, the envisioned operating profile is not expected to result in NO_x precursor emissions that are notably higher in one season, versus another. Therefore, precursor NO_x emissions are expected to impact all seasons approximately uniformly and are not expected to disproportionately impact higher background nitrate concentrations observed during the colder months.
- The time required for $PM_{2.5}$ precursors to react and form secondary $PM_{2.5}$ is variable and depends on the specific precursor, ambient temperature and humidity. The chemical reactions related to sulfate and ammonium sulfate production occurs on relatively long time scales. Reaction time estimates for sulfate precursors show that oxidation occurs at an average rate of 0.1 to 1% of sulfate per hour.³⁴ Concurrent with those chemical reactions are downwind transport and dispersion processes, both of which will dilute the concentration levels of any sulfate converted into secondary $PM_{2.5}$. For example, a 5 mph wind over 24 hours would carry a plume 120 miles. Atmospheric turbulent mixing and dispersion processes over that time and distance would significantly dilute a plume.
- The formation of ammonium nitrate requires several intermediate chemical reactions, some of which are reversible. Nitrates change

³⁴ Hodan, W.M. and W.R. Barnard, 2004. "Evaluating the Contribution of $PM_{2.5}$ Precursor Gases and Re-entrained Road Emissions to Mobile Source $PM_{2.5}$ Particulate Matter Emissions." 13th International Emission Inventory Conference. Clearwater, FL, June 8 - 10, 2004.

Illinois Environmental Protection Agency
Bureau of Air, Permit Section

Jackson Energy Center
Project Summary

continuously between gas and condensed phases in the atmosphere, so an analogous nitrate reaction time is difficult to define. However, because time is required for precursors to react and form PM_{2.5}, secondary PM_{2.5} formation is expected to be relatively low near the Jackson Energy Center where modeled primary PM_{2.5} concentrations are expected to be the highest due to pollutant diffusion processes. Conversely, secondary PM_{2.5} concentrations are expected to be higher farther downwind from the Jackson Energy Center where primary PM_{2.5} concentrations are expected to be lower. This makes it unlikely that the maximum primary PM_{2.5} concentration and the maximum secondary PM_{2.5} concentration would occur at the same spatial location ("paired in space"), or at the same time ("paired in time"), per USEPA guidance.³⁵

- Background concentrations of certain chemical species, including ammonia and volatile organic compounds, participate in photochemical reactions to form secondary PM_{2.5}. The Jackson Energy Center will be located in a relatively rural area. Therefore, background VOM and ammonia concentrations are expected to be relatively low and are therefore not expected to result in significant contributions to secondary PM_{2.5}.

A quantitative assessment using "Modeled Emission Rates for Precursors" (MERPS) was also conducted to assess the contribution of the facility's NO_x and SO₂ emissions to the formation of secondary PM_{2.5} and ambient air quality for PM_{2.5}.³⁶ This analysis indicated that a full modeling analyses needed to be conducted for PM_{2.5} to address the NAAQS and PSD Increment that apply on a 24-hour average. These analyses showed that the facility will not cause or significantly contribute to any modeled exceedances of the NAAQS or PSD Increment for PM_{2.5}, on a 24-hour average.

7.3 Vegetation and Soils Analysis

Land use in the vicinity of the proposed facility consists of a mix of agricultural and industrial activities. The Elwood Energy Center is located adjacent to, and immediately west of the project site. An Army reserve training center is located to the south of the project site. Areas east and north of the project site are primarily used for agriculture, with some residential and light commercial development in recent years. Cultivated agricultural fields are interspersed throughout the area and account for a majority of the non-industrial land use in southern Will County.

³⁵ March 23, 2010, USEPA. "Modeling Procedures for Demonstrating Compliance with PM_{2.5} NAAQS."

³⁶ At a conference in June 2018, George Bridges of USEPA proposed the use of a quantitative methodology for assessing the impacts of secondary PM_{2.5} based on the modeled emission rates for precursors (MERPS). This methodology was developed to the levels of emissions of precursors pollutants from a proposed project to be determined below which significant contributions to air quality for the subject criteria pollutant should not be expected. This methodology can also be used more generally to evaluate the contribution of the emissions of precursors pollutants from a proposed project to air quality. (George M. Bridges, USEPA, OAPS, AQAD, Air Quality Modeling Group, Presentation, USEPA Regional, State and Local Modeler's Workshop, June 5, 2018, Boston, Massachusetts)

Attachment 13

Excerpt

United States Environmental Protection Agency
Region 10, Office of Air and Waste
1200 Sixth Avenue, Suite 155, OAW-150
Seattle, Washington 98101-3123

Permit Number: R10PSD00100
Issued:
Effective:
AFS Plant I.D. Number: 16-009-00001

FACT SHEET

Prevention of Significant Deterioration Permit

Permit Writer: Dan Meyer

PotlatchDeltic Land and Lumber, LLC – St. Maries Complex

Coeur d'Alene Reservation
St. Maries, Idaho

Purpose of Permit and Fact Sheet

New major stationary sources of air pollution and major modifications to major stationary sources are required by the Clean Air Act to obtain an air pollution permit before commencing construction. The process is called new source review and is required whether the major source or modification is planned for an area where the national ambient air quality standards (NAAQS) are exceeded or an area where air quality is acceptable. Permits for sources in attainment areas are referred to as prevention of significant air quality deterioration (PSD) permits, and Title 40 of the Code of Federal Regulations (CFR), 52.21, establishes the federal PSD program that applies in Indian Country.

40 CFR Part 124 establishes the EPA procedures for issuing PSD permits. This document, the Fact Sheet, fulfills the requirements of 40 CFR 124.8 by setting forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. Unlike the PSD permit, this Fact Sheet is not legally enforceable. The Permittee is obligated to comply with the terms of the permit. Any errors or omissions in the summaries provided here do not excuse the Permittee from the requirements of the permit.

PotlatchDeltic did not calculate the project's net emissions increase. In the interest of processing the application based upon the information submitted, and for those pollutants for which PSD would otherwise be triggered based upon the project's emissions increase, Region 10 is assuming that the project's net emissions increase is at least equal to or greater than the relevant PSD applicability threshold. For those pollutants for which PSD would otherwise not be triggered based upon the project's emissions increase, PSD applicability is not contingent upon the net emissions increase.

3.5 Applicability Determination

Based upon PotlatchDeltic's calculations, the project is subject to PSD review for VOC.

4. Best Available Control Technology (BACT)

The permittee is required to apply best available control technology for each regulated NSR pollutant for which the project results in both a significant emissions increase and a significant net emission increase. This requirement only applies to each proposed emission unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation of the unit. See 40 CFR 52.21(j). For this project, only the proposed new lumber dry kiln LK-6 is subject to BACT for VOC emissions.

After determining the initial BACT analysis incomplete, the permittee supplied additional information relevant to the five-step BACT analysis throughout the application review process. Region 10 also supplemented information from the permittee with independent research. Twelve control options were identified in Step 1 of the BACT process. Region 10 evaluated all 12 control technologies, discarding four as technically infeasible in Step 2. Ranking the technologies in Step 3 showed emission reductions ranging from 98 to 24% (not counting the base case proposed by the permittee, which represents a 0% emission reduction). In Step 4, Region 10 evaluated the economic, energy, and environmental impacts using information from the permittee as well as information independently obtained by Region 10. Based on that evaluation, the average cost effectiveness of the remaining eight technologies ranged from \$15,729/ton to \$173,120/ton. In Step 5, Region 10 concluded that, based on the analysis conducted and the information provided by the permittee, the permittee's proposed option (high temperature drying in one kiln) is the BACT for this project because none of the remaining control technologies were cost effective.

See Region 10 BACT analysis in Appendix C.

5. Ambient Air Quality Impact Analysis (AQIA)

The permittee is required to demonstrate that allowable emission increases from the proposed modification will not cause or contribute to a violation of any NAAQS or any applicable maximum allowable increase over the baseline concentration. See 40 CFR 52.21(k). The applicant has performed an AQIA of VOC emissions as part of its PSD application for the LK-6 project. The AQIA was used to assess ozone impacts attributable to projected emissions from the proposed project. In July 2018, the permittee proposed an enforceable limit on the VOC emission increase from the new kiln of 50 tons per year, resulting in a substantial reduction from the emissions originally projected from the project. EPA Region 10 conducted a revised ozone

assessment based on the proposed emission limit and using the methodologies agreed upon in the modeling protocol. See Appendix D to this Fact Sheet for the details.

The emission increases were used to determine the estimated maximum ozone impact using the methodologies proposed in the draft modeled emission rates for precursors guidance. The estimated maximum 8-hour ozone concentration impact attributable to the project is 0.51 parts per billion (ppb). This value is about half of the value of the ozone NAAQS significant impact level (SIL) of 1.0 ppb. Therefore, based on the April 2018 ozone SILs guidance and supporting technical and legal documents, which are incorporated into the administrative record for this permit, EPA concludes that the project will not cause or contribute to a violation of the ozone NAAQS. Even without relying on the SIL, a projected cumulative impact associated with the new project can be estimated by combining the results of the estimated ozone impacts from the project source (i.e., 0.51 ppb) and the monitored background concentration (i.e., 63 ppb). The resulting cumulative projection of 63.51 ppb of ozone is below the ozone 8-hour NAAQS of 70 ppb.

6. Additional Analyses

EPA Trust Responsibility. As part of the EPA Region 10's direct federal implementation and oversight responsibilities in Indian Country, Region 10 has a trust responsibility to each of the 271 federally recognized Indian tribes within the Pacific Northwest and Alaska. The trust responsibility stems from various legal authorities including the U.S. Constitution, Treaties, statutes, executive orders, historical relations with Indian tribes and, in this case, the 1873 Executive Order and subsequent series of treaty agreements. In general terms, the EPA is charged with considering the interest of tribes in planning and decision-making processes. Each office within the EPA is mandated to establish procedures for regular and meaningful consultation and collaboration with Indian tribal governments in the development of EPA decisions that have tribal implications. Region 10's Office of Air and Waste has contacted the Tribe to invite consultation on this PSD permit and has maintained ongoing communications with Tribal environmental staff throughout the permitting process.

Endangered Species Act. Under this act, the EPA is obligated to consider the impact that a federal project may have on listed species or critical habitats. The bull trout is a listed species and the North American wolverine is proposed for listing. Correspondence from the U.S. Fish and Wildlife Service (USFWS) indicates that bull trout are the only ESA threatened or endangered aquatic species with critical habitat in the vicinity of the proposed project. EPA has concluded that the proposed project may affect, but is not likely to adversely affect, ESA-listed bull trout and their designated critical habitat, and we have received concurrence from the USFWS on our determination. The project will have no effect on the North American wolverine.

National Historic Preservation Act. Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires federal agencies to consider the effects on historic properties of projects they carry out, assist, fund, permit, license, or approve throughout the country. If a federal or federally-assisted project has the potential to affect historic properties, a Section 106 review is conducted. As noted earlier, the issuance of this PSD permit would authorize construction of a 104-foot kiln beside an existing 104-foot kiln installed in 2006. The new kiln would be constructed on ground currently serving as a roadway within the SMC and which has therefore already been disturbed to some extent. PotlatchDeltic states that the new lumber dry kiln will

Attachment 14

Excerpt



U.S. Environmental Protection Agency
Pacific Southwest - Region 9
Clean Air Act Permit

Response to Public Comments on Proposed Prevention of Significant Deterioration Permit

**Palmdale Energy Project
PSD Permit No. SE 17-01**

April 2018

meteorological conditions were adequately represented in the model results for the PEP, and that the data used were adequately representative and otherwise consistent with the GAQM.

The meteorological data used as an input to AERMOD for this analysis was selected based on spatial and climatological (temporal) representativeness as well as the ability of the individual parameters selected to characterize the transport and dispersion conditions in the area of concern. The representativeness of the measured data is dependent on numerous factors, including, but not limited to, the proximity of the meteorological monitoring site to the area under consideration, complexity of the terrain, the exposure of the meteorological site, and the period of time during which data are collected. The meteorological data should be adequately representative, and may be site-specific data or data from a nearby National Weather Service (NWS) or comparable station. Section 8.4 of the GAQM states that the model user should acquire enough meteorological data to ensure that worst-case meteorological conditions are adequately represented in the model results. The GAQM also states that the use of 5 years of meteorological data is adequate. We note that one study cited in the 2005 GAQM⁴¹ compared various periods from a 17-year data set to determine the minimum number of years of data needed to approximate the concentrations modeled with a 17-year period of meteorological data from one station. This study indicated that the variability of model estimates due to the meteorological data input was adequately reduced if a 5-year period of record of meteorological input was used, consistent with the GAQM provision stating that the use of 5 years of meteorological data is adequate.

The commenter also suggests that our modeling analysis should consider the impacts of the PEP with the growing community, and is concerned with health problems in the area that may be related to air pollution. It is unclear which types of impacts concern the commenter, but the commenter generally appears concerned with long term planning for emission increases from other unspecified sources that may be developed within the community in the future, separate from the PEP. Such an analysis of unrelated emissions growth is generally outside the scope of this individual PSD permit action. Except for ozone, the Antelope Valley is currently attaining all of the EPA's health-based air standards (NAAQS), which provide public health protection, including for sensitive populations such as asthmatics, children, and the elderly. For those NAAQS which the Antelope Valley is already attaining, the PSD program requires that the PEP will not cause or contribute to a violation of those standards. The EPA has determined that the PEP will meet this requirement. Regarding the ozone NAAQS for which the area has been designated nonattainment, please see Response 2 for a discussion of actions intended to ensure that the Antelope Valley attains the ozone standards and health concerns in the Antelope Valley related to air pollution. Finally, we note that the Applicant also met the additional impact analysis requirements in the PSD regulations at 40 CFR 52.21, which require an analysis of general commercial, residential, industrial and other growth associated with the source or modification. See Fact Sheet at 79-80.

EPA Improperly Failed to Conduct a Cumulative CO and Annual NO₂ Impact Analysis by Using Significant Impact Levels

Comment 27:

(Commenters: Conservation Groups (0016))

As detailed in the comment summary below, the commenters asserted that the EPA should have required a cumulative impact analysis for the Project's impacts on the 1-hr and 8-hr CO NAAQS and the annual NO₂ NAAQS and increment, citing various exhibits in support of their argument.

⁴¹ Burton, C.S., T.E. Stoeckenius and J.P. Nordin, 1983. Final Report: The Temporal Representativeness of Short-Term Meteorological Data Sets: Implications for Air Quality Impact Assessments. Systems Applications, Inc., San Rafael, CA. (Docket No. A-80-46, II-G11)).

The EPA claims that if a source by itself does not exceed a significant impact level (SIL) which the EPA has decided to use, the EPA may allow the permittee to avoid doing a cumulative impact analysis if the EPA feels like that is appropriate, on a case by case basis, based on the record. The EPA is incorrect. The statute and regulations require that sources demonstrate that they will not cause or contribute to a violation of the NAAQS and increments. This demonstration requires consideration of nearby sources as well as the permittee's source. For the PEP, the EPA proposes that because the Project itself has impacts below the CO 1-hr and 8-hr SIL, a cumulative impact analysis is not required for CO. The EPA cites to 40 CFR 51.165(b)(2) as authority for these SILs. But 40 CFR 51.165 does not apply to this permit. Rather, 40 CFR 51.165 prescribes what must be in state permitting programs. The statute and regulation prohibit PEP from contributing to violations of the CO NAAQS. The statute and regulation do not use the term "significantly" contribute. Rather, they say contribute. Thus, if the existing sources are causing CO NAAQS violations and PEP contributes to these violations at all, the EPA must deny the permit. Therefore, the EPA must require a cumulative impact analysis for CO.

The EPA's decision to not require the source to demonstrate that it will not cause or contribute to violations of the annual NO₂ NAAQS or increment is also flawed. As to the annual NO_x increment, without the EPA figuring out how much of the NO_x increment is currently consumed, the EPA is simply guessing that PEP will not cause or contribute to a violation of increment. The EPA is not allowed to make this permitting decision based on guess work. Therefore, the EPA needs to require the applicant to conduct a cumulative annual NO_x analysis.

Response 27:

The EPA has required the permit applicant to demonstrate that construction of the proposed source will not cause or contribute to a violation of the 1-hr and 8-hr CO NAAQS and annual NO₂ NAAQS and Class II increment.⁴² The air quality impact analysis in the record makes this showing and is not flawed or invalid in any respect. Our air quality impact analysis, as described in the Fact Sheet, used air quality modeling to assess the impact of the Project's emissions for CO and 1-hr NO₂, and considered the monitored background concentrations for these pollutants and averaging times, which fully supported our determination that emissions from the proposed Project would not cause or contribute to a violation of the CO NAAQS or the annual NO₂ NAAQS or increment. As explained in the Fact Sheet and in further detail below, the air quality analyses also appropriately used significant impact levels (SILs) to help demonstrate that the impact of the proposed source on the CO and annual NO₂ concentrations will not cause or contribute to a violation of the relevant NAAQS or PSD increments.

Under section 165(a)(3) of the Act, an applicant for a PSD permit must "demonstrate ... that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any" NAAQS or PSD increment. The EPA has reflected this requirement in its PSD regulations.⁴³ The law is clear that such a demonstration must be made to obtain a PSD permit. *Sierra Club v. EPA*, 705 F.3d 458, 465 (D.C. Cir. 2013). However, the Act does not specify *how* a PSD permit applicant or permitting authority is to determine whether a proposed new or modified source will (or will not) cause or contribute to a violation of a NAAQS or applicable PSD increment. *Id.* CAA section 165(e) directs the EPA to define the nature of the analysis that is necessary to make this demonstration, by specifying "each air quality model or models to be used under specified sets of conditions." In accordance with this authority, the EPA has promulgated the GAQM that identifies such models and the conditions under which they may be used in the PSD program to make the demonstration required under the Act.⁴⁴ Under the GAQM, the EPA's recommended procedure for conducting a NAAQS or PSD increment assessment for PSD permitting is a multi-stage approach. The first stage is a preliminary analysis of the project-

⁴² There are no PSD increments for CO. The commenters appear to refer to the NO₂ increment and the "NO_x" increment interchangeably, since the only NO_x increment is specifically for NO₂ (annual).

⁴³ See 40 CFR 52.21(k).

⁴⁴ The PSD regulations at 40 CFR 52.21(l) provide for the use of "applicable models, data bases, and other requirements" specified in 40 CFR part 51, Appendix W.

only impacts, which is composed of a screening model and, if necessary, a refined model; the second stage is a cumulative impact analysis. GAQM § 9.2.3(a); see also NSR Manual at C.24. A cumulative impact analysis is a more comprehensive modeling exercise that generally includes both modeled and monitored air quality impacts. Cumulative impact modeling uses the proposed source's emissions and emissions from any nearby sources with air quality impacts that are not adequately represented by the background monitoring data.

With respect to the PEP, the air quality analyses included a preliminary analysis that used Project-only modeling (screening and refined modeling) and, where necessary, a cumulative impact analysis, depending on the impacts for a particular NAAQS or increment. In general, the Project-only modeling that was conducted was conservative, as compared to the cumulative impact modeling, in that the former used worst-case impacts, whereas the latter took into account the particular form of each NAAQS. Fact Sheet at 58. For example, for CO, in the preliminary impact analysis, the highest first high impact from the Project's emissions was used for our analysis, whereas, in a cumulative impact analysis, the highest second high modeled impact from the Project would have been used to demonstrate compliance.⁴⁵

In Table 1 below, we summarize our preliminary analyses for the CO NAAQS and the annual NO₂ NAAQS and increment. These analyses are also discussed in Section 7.3.3.1 and Table 24 of the Fact Sheet. Importantly, for the CO NAAQS and the annual NO₂ NAAQS, we supplemented our preliminary Project-only modeling analysis with additional analysis in which we considered both Project-only impacts and background monitoring data.⁴⁶ In this way, we exercised our authority under CAA sections 165(a)(3) and (e) to use an air quality analysis to ensure NAAQS compliance that was composed not only of "project-only" modeling as described in the GAQM, but also of background monitoring data, an element of the "cumulative impact" analysis as described in the GAQM. We believe that our approach for assessing the air quality impacts of the Project for the CO NAAQS and the annual NO₂ NAAQS and increment was fully consistent with the Act.

Table 1 Summary of Preliminary Project-Only Analysis for 1-hr CO, 8-hr CO, and Annual NO₂

NAAQS Pollutant & Averaging Time ^a	Maximum Project-Only Modeled Impact, µg/m ³	SIL, µg/m ³	Background Concentration, µg/m ³	Maximum Project-Only Impact + Background Concentration µg/m ³	NAAQS µg/m ³	PSD Class II Increment, µg/m ³
CO, 1-hr	575	2000	2,176	2,751	40,000	N/A
CO, 8-hr	89	500	1,603	1,692	10,000	N/A
NO ₂ , annual	0.98	1.0	15.1	16.1	100	25

^a For the 1-hr CO and 8-hr CO NAAQS, the Applicant modeled two scenarios – one during normal conditions and one during startup conditions. For each of these standards, the startup scenario had the higher maximum impact as compared to the normal condition scenario. For ease of reference, we are showing in this Table only the startup scenarios and their maximum impacts. The results of the normal operation scenarios are provided in Table 24 of the Fact Sheet.

For 1-hr CO, 8-hr CO, and annual NO₂, as seen in Table 1, the modeled Project-only impacts were *very low* compared to the applicable NAAQS and increment – each less than 4% of the applicable values. Further, as shown in the Table above, when background concentrations are considered by adding them to the maximum Project-

⁴⁵ For both the 1-hr and 8-hr NAAQS, the NAAQS value is not to be exceeded "more than once per year." As such, the second highest impact is used to determine compliance.

⁴⁶ We discuss the representativeness of the background monitoring data in Response 32.

only impacts and comparing the summed values to the applicable NAAQS, the projected impacts from the proposed Project are still well below these NAAQS – less than 17% of each NAAQS. See also Fact Sheet at Section 7.3.3.1 and Table 24. Based on this information, we were able to determine that the proposed Project would not cause or contribute to a violation of the CO NAAQS and annual NO₂ NAAQS and increment. *Ibid.* Thus, a more comprehensive air quality analysis was not needed to make this demonstration.

After review of the comments received, we continue to find that this is the appropriate conclusion. We note that, as discussed in detail in Response 32, the representativeness of the background monitoring data that was used in this case and the nature of the few emissions sources in the area near the PEP further support our conclusion that additional modeling is unnecessary to demonstrate compliance with the CO NAAQS and the annual NO₂ NAAQS and increment. As shown above, this conclusion is justified and appropriate even without any consideration of or comparison to the SILs. The commenters fail to demonstrate that any error was made in the air quality analyses, that any additional modeling is necessary, or that there is reason to believe that the Project would cause or contribute to a violation of the CO NAAQS or the annual NO₂ NAAQS or increment.

Although our air quality analyses and conclusions concerning the proposed Project are valid without any reliance on SILs, we also believe that the use of SILs in assessing the impacts of the Project was appropriate and the commenters have not shown otherwise. The EPA has issued a Legal Memorandum that shows how the CAA may be read to allow the use of SILs as part of air quality demonstrations required for PSD permit applications under CAA section 165(a)(3).⁴⁷ Among other things, the Legal Memorandum explains that in the past, the EPA has cited *de minimis* exemption authority to justify the use of SILs, but such reliance was unnecessary. A more accurate description is that SILs have been used as a means of making the air quality impact demonstration required by CAA 165(a)(3), rather than as an exemption from the statutory requirement. As discussed in the Legal Memorandum, where air quality modeling demonstrates that the projected air quality impact of the proposed source will not exceed a properly-supported SIL, the PSD permitting authority has discretion to determine, on a case-by-case basis, that the proposed source's emissions will not "cause or contribute to" a violation of the applicable NAAQS or PSD increment, without the need for additional air quality analysis.⁴⁸

The commenters specifically disagree with the use of SILs for the CO NAAQS and annual NO₂ NAAQS and increment.⁴⁹ As discussed above, the EPA has long used the CO and annual NO₂ values in 40 CFR 51.165(b)(2) as a

⁴⁷ "Legal Memorandum, Application of Significant Impact Levels in the Air Quality Demonstration for Prevention of Significant Deterioration Permitting under the Clean Air Act" (2018). The Legal Memorandum accompanied an EPA policy guidance "Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program" (2018). Draft versions of the legal memorandum and policy guidance were made available to the public in August 2016 and were referenced in Table 24 of the Fact Sheet. For more information on the draft and final versions of this legal memorandum and guidance and accompanying documents, see <https://www.epa.gov/nsr/draft-guidance-comment-significant-impact-levels-ozone-and-fine-particle-prevention-significant> and <https://www.epa.gov/nsr/significant-impact-levels-ozone-and-fine-particles>. Although written specifically in support of the ozone and PM_{2.5} SILs policy guidance, the legal analysis in the memorandum also applies to the use of SILs for other NAAQS and increments in the PSD program.

⁴⁸ We note, however, that upon considering the permit record in an individual case, a permitting authority also has discretion to consider additional information or analysis, such as background monitoring data and the potential impact of nearby sources, to make the required air quality impact demonstration. For the CO and annual NO₂ air quality analyses for this permit, the EPA expressly considered both modeled Project-only impacts and background monitoring data, in addition to comparing the modeled Project-only impacts to SILs, as shown in the Fact Sheet and discussed above. And, in considering these comments, the EPA has provided a detailed explanation concerning the potential impacts of nearby sources and its determination that, given the nature of the few nearby emissions sources, additional modeling is unnecessary to demonstrate compliance with the CO NAAQS and annual NO₂ NAAQS and increment.

⁴⁹ We note that the commenters did not challenge the use of the SILs in the modeling that was conducted to demonstrate the PEP's compliance with the NAAQS and Class II increments for PM₁₀ and PM_{2.5} and the NAAQS for 1-hr NO₂, presumably

compliance demonstration tool on a case-by-case basis in the context of PSD air quality analysis. See NSR Manual at C.26-28, 52.⁵⁰ The EPA has used these values to identify the degree of air quality impact that would “cause or contribute to” a violation of a NAAQS or PSD increment, and has often concluded on a case-by-case basis in permitting decisions that a demonstration that a source does not have an impact above these values in the ambient air is sufficient to show that a source will not cause or contribute to a violation of the NAAQS. This approach has helped to reduce the burden on permitting authorities and permit applicants to conduct often time-consuming and resource-intensive air dispersion modeling where such modeling was unnecessary to demonstrate that a permit applicant meets the requirements of section 165(a)(3), consistent with the procedures in the GAQM and EPA’s authority under CAA 165(e)(3).⁵¹

The commenters’ specific concerns related to emissions from sources within the nearby United States Air Force Plant 42 with respect to the CO NAAQS and the annual NO₂ NAAQS and Class II increment are addressed separately in Responses 31-32.

The EPA Impermissibly Relied on SILs for its Class I Increments Analysis

Comment 28:

(Commenters: Conservation Groups (0016))

The commenters asserted: “[The] Fact Sheet at 63 shows that EPA impermissibly relied on SILs in its Class I impact analysis. Even if this is harmless error for PM_{2.5} because PEP established the minor source baseline date and is the

because the modeled Project-only impacts were above those SILs and cumulative impact analyses were conducted for these pollutants. The commenters also did not comment on the numerical levels of the CO and NO₂ SILs used in the analyses for the PEP.

⁵⁰ The commenters assert that it was improper to use the CO values from 40 CFR 51.165(b), arguing that this regulation does not apply to the permit in this case and instead addresses the requirements for State permitting programs. The commenter misapprehends the purpose of the cited reference. We did not assert that the values in 40 CFR 51.165(b)(2) are legally binding SILs for use in air quality analyses for EPA-issued PSD permits. Instead, for each value listed in Table 24 of the Fact Sheet, we identified reference material to show the source of the values used in the analysis. One of the references was to 40 CFR 51.165(b)(2), for the CO NAAQS and annual NO₂ NAAQS and increment. The values reflected in this regulation were initially developed by EPA in 1978. See 43 Fed. Reg. 26380, 26398 (June 19, 1978). This notice and supporting record explain how the EPA developed these values, which represent a level of change in concentration at which the impact of the source is considered to cause or contribute to a violation of the relevant NAAQS. Based on this information, the EPA believes it also reasonable to conclude in most permitting situations that an impact below the values in 40 CFR 51.165(b) would not cause or contribute to a violation. We are not reading 40 CFR 51.165(b)(2) to require this conclusion, but rather drawing an inference from the EPA’s rationale supporting the values. Other references in Table 24 are to EPA memos from 2010 and 2011 and the draft EPA ozone and PM_{2.5} SILs guidance from 2016, which likewise provide a justification to show why it is reasonable for a permitting authority to conclude that a showing that a source does not have an impact above the EPA recommended values is sufficient to conclude that the source will not cause or contribute to a violation of the relevant NAAQS or increment.

⁵¹ The commenters also assert, “The statute and regulation do not use the term ‘significantly’ contribute. Rather, they say contribute. Thus, if the existing sources are causing CO NAAQS violations and PEP contributes to these violations at all, the EPA must deny the permit.” We agree with these comments. Specifically, if emissions from the proposed Project were determined to contribute to a CO NAAQS violation, even where existing sources are already causing CO NAAQS violations, the EPA would not issue the PSD permit, i.e., not without reductions in emissions from the Project or existing sources or another remedy so that the Project would no longer contribute to a NAAQS violation. We also agree that CAA 165(a)(3) does not say “significantly contribute” and, as discussed in the Legal Memorandum referenced in Response 27, we do not interpret the term “contribute” in CAA 165(a)(3) to mean “contribute significantly.” We also note that, in the particular case of CO emissions, violations of the NAAQS are extremely uncommon. Nationwide CO levels have dramatically declined since stricter standards for motor vehicles required the use of the catalytic converter beginning in the 1970s. See, for example, <https://www.epa.gov/air-trends/carbon-monoxide-trends>, showing nationwide trends decreasing since 1980. Currently, there no areas in the U.S. violating the CO NAAQS. <https://www3.epa.gov/airquality/greenbook/cbtc.html>.

only increment consuming source at this time, that is not true for NO_x.⁵² As explained above, SILs are not permissible. Furthermore, using SILs from a proposed rule is contrary to the Clean Air Act and is a due process violation.”

Response 28:

We disagree with the commenters’ assertion that SILs are not permissible. See Response 27 for our response to the commenters’ contentions regarding the permissibility of the use of SILs. We also note the commenters’ view that the use of PM_{2.5} SILs in this case was, in the commenters’ words, harmless error.

In this case, as detailed in Fact Sheet Section 7.3.5, the EPA analyzed Project-only impacts on Class I increments for Class I areas within 300 kilometers (km) of the Project. We determined that the modeled Project-only impacts for the relevant pollutants for which there are Class I increments were considerably lower than the corresponding Class I SILs, which themselves represent a small portion of the applicable increment, and we further noted that there are few sources in the vicinity of the relevant Class I areas that potentially would consume increment. For PM_{2.5}, we also noted that the Project is the source that establishes the minor source baseline date and baseline concentration in the area, and is the only increment-consuming source at this time. Based on this analysis, we determined that the Project would not cause or contribute to a violation of the applicable PSD Class I increments. We continue to believe that the analysis that was conducted based on the facts in this case was appropriate and sufficient. The commenters have not provided any information demonstrating that our analysis or conclusion was erroneous or that further analysis would lead to a different result.

The commenters also assert that “using [Class I] SILs from a proposed rule is contrary to the Clean Air Act and is a due process violation.” We disagree. Although the commenters did not specify which SILs this particular assertion addresses, the only Class I SILs that reference a proposed rule are those for annual NO₂ and 24-hr PM₁₀. The Fact Sheet identifies these Class I SILs used in the PSD increment analysis and provides a reference to a 1996 EPA proposed rule to provide more information about them. The Fact Sheet did not indicate that these SILs in the Class I increments analysis, or elsewhere in the air quality analysis, were binding regulatory provisions. Instead, the 1996 proposed rule was cited as a nonbinding reference. While the rule was not completed, the record for this proposed rule supports using the proposed NO₂ and 24-hr PM₁₀ Class I increment SILs from the proposed rule in this instance as a compliance demonstration tool in the Class I increments analysis. See footnote 50 in Response 27. Although the commenters asserted that “SILs are not permissible” and referenced their other comments addressed above, the commenters did not comment about the references in the Fact Sheet (concerning the PM_{2.5} SILs) to the EPA’s 2016 draft guidance on SILs for ozone and fine particles.⁵³ The 1996 proposed rule was referenced for the same purpose as the reference to the 2016 draft guidance, to incorporate the rationale reflected there to support the application of SILs to this permit application. The use of SILs in the Class I increments analysis, as well as in the rest of the air quality analysis, including the specific numerical levels of the SILs, was subject to public notice and the opportunity to comment in this proceeding pursuant to PSD permitting requirements, as exemplified by the commenters’ comments and our responses herein. The EPA believes that this process satisfies the requirements of due process.

Hours of Operation Limits for Emergency Engines Must Reflect Modeling

Comment 29:

Commenters: Conservation Groups (0016)

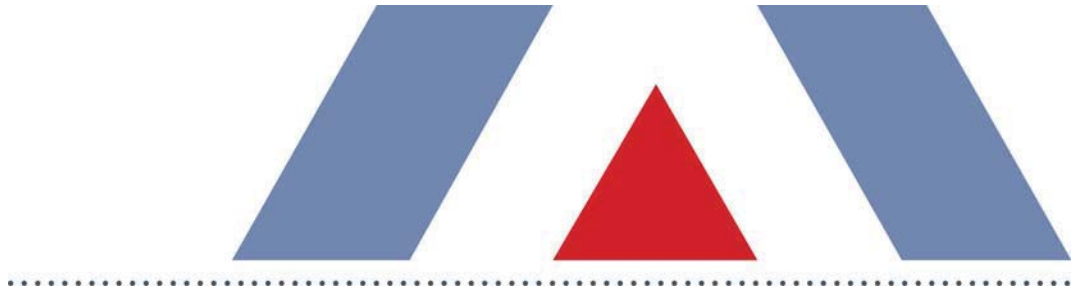
⁵² The commenters refer to the “NO_x” increment, but we assume they are referring to the annual NO₂ increment as it is the only NO_x-related increment.

⁵³ As noted in footnote 47 above, this 2016 draft guidance was recently issued in final form.

<https://www.epa.gov/nsr/significant-impact-levels-ozone-and-fine-particles>.

Attachment 15

Excerpt



PROJECT REPORT
Packaging Corporation of America > Wallula Mill



Paper Machine No. 3 Rebuild PSD Application

Prepared By:

Aaron M. Day, P.E. – Principal Consultant
Anna Henolson P.E., C.M. – Managing Consultant
Courtney O’Gorman – Consultant

TRINITY CONSULTANTS
20819 72nd Avenue South
Suite 610
Kent, WA 98032
(253) 867-5600

May 2018

Project 174801.0058



Environmental solutions delivered uncommonly well

3. MODELING METHODOLOGY

AERMOD is a refined, steady-state, multiple-source, Gaussian dispersion model and is the preferred model to use for industrial sources in this type of analysis. The analysis will be performed using the regulatory default model settings. This section describes the AERMOD modeling methodology proposed to conduct the ambient air quality analysis for this project.

3.1. MODELED POLLUTANTS AND AVERAGING PERIODS

As discussed in Section 2, the No. 3 Paper Machine rebuild project will trigger PSD for PM₁₀, PM_{2.5}, NO_x, CO, VOC, TRS, and GHG. The other pollutants (PM, SO₂, lead, and H₂SO₄) were evaluated and determined not to trigger PSD permitting, because the increases in emissions of these pollutants are below their respective SERs. Of the seven pollutants listed that do trigger PSD permitting, four have corresponding National Ambient Air Quality Standards (NAAQS) or PSD increment levels: PM₁₀, PM_{2.5}, NO_x (for NO₂), and CO. VOC, TRS, and GHG do not have a NAAQS or PSD increment. However, VOC is a precursor pollutant for ozone, which does have a NAAQS. VOC and NO_x are addressed as precursors to ozone under Section 3.3.3, but ozone is not modeled explicitly in AERMOD. Therefore, this report's discussion of AERMOD modeling protocol is limited to a discussion of the four pollutants triggering PSD that have a directly associated NAAQS for PSD increment: PM₁₀, PM_{2.5}, NO_x (for NO₂), and CO.

3.1.1. Short Term Averaging Period

The No. 3 Paper Machine is the only modified unit of the No. 3 Paper Machine rebuild project. In addition, there will be a short term increase in pulp production, resulting in short term emission increases of units that have emissions related to pulp throughput. Therefore, the No. 3 Paper Machine and fugitive emissions arising from pulp production are the only emission sources that will be included in the short term modeling analysis. Other emission units in the pulping process downstream of the pulp digesters only emit VOC and TRS, which do not have air quality standards. Pollutants with a short term averaging period included in the analysis are PM₁₀ (24-hour averaging period) and PM_{2.5} (24-hour averaging period). Short-term emission rates of CO are not increasing as a result of the project, because the No. 3 Paper Machine does not emit CO, and the only sources of CO affected by the project (recovery furnaces, smelt dissolving tanks, and lime kiln) will not experience an increase short-term maximum production rates. Therefore, a modeling analysis for the 1-hour and 8-hour CO NAAQS or SIL is not necessary.

3.1.2. Annual Averaging Period

Emission units with associated emission increases will be included in annual averaging period modeling analyses. These analyses include PM₁₀, PM_{2.5}, and NO₂. CO does not have an annual averaging period NAAQS or PSD increment. Since a modeling analysis for CO for the annual averaging period is not applicable and 1-hour and 8-hour CO NAAQS or SIL is not necessary, a modeling analysis for CO will not be conducted.

3.2. SIGNIFICANCE ANALYSIS

Initially, a significance analysis will be performed to determine if the emission increases associated with the project will significantly impact the area surrounding the facility. The significance analysis will be conducted for PM₁₀ (annual and 24-hour averaging periods), PM_{2.5} (annual averaging period), and NO₂ (annual averaging period), as discussed in the previous section. Modeled concentrations will be compared to significant impact

levels (SILs) established by Ecology. The SILs and the corresponding NAAQS and Class II PSD increments for the pollutants modeled are shown in Table 3-1.

Ecology establishes “Cause or Contribute Threshold Values” (equivalent to the SILs) in Washington Administrative Code (WAC) 173-400-113 as a screening approach for determining if a proposed project will contribute to a violation of an ambient air quality standard. For this analysis, the SILs established in WAC 173-400-113 will be used.

EPA issued draft guidance regarding the SIL for PM_{2.5} for the PSD permitting program on August 1, 2016, and later revised on August 18, 2016. EPA’s draft SIL guidance for PM_{2.5} is provided in Appendix A. Per the guidance,

“...permitting authorities retain the discretion under this provision to determine on a case-by-case basis whether an impact between 0.2 µg/m³ and 0.3 µg/m³ will cause or contribute to a violation of the annual PM_{2.5} NAAQS.”

The PM_{2.5} SIL provided in WAC 173-400-113 falls within the range referenced by EPA in its PM_{2.5} SIL guidance.

If the highest ambient concentration resulting from the modeled project emissions for a pollutant and averaging time is less than the SIL, then a further analysis will not be conducted for that pollutant and averaging time. If concentrations exceed the SIL, NAAQS “Full Impacts Analysis” analyses and/or Class II PSD Increment analyses are required for that pollutant and averaging period. It is not expected that any of the modeling analyses will exceed the SIL.

Table 3-1. Significance Levels, NAAQS, and PSD Class II Increments

Pollutant	Averaging Period	Significant Impact Levels (µg/m³)	NAAQS (µg/m³)	Class II PSD Increment (µg/m³)
PM ₁₀	Annual	1.0 ^a	N/A	17
	24-hour	5 ^b	150 ^f	30
PM _{2.5}	Annual	0.3 ^c	15 ^g	4
	24-hour	1.2 ^d	35 ^h	9
NO ₂	Annual	1.0 ^e	100 ⁱ	25

^a Annual arithmetic mean

^b Not to be exceeded

^c Annual arithmetic mean, averaged over 3 years (5 years for a 5-year modeling analysis). EPA issued draft guidance regarding the SIL for PM_{2.5} and ozone for the PSD permitting program on August 1, 2016, and later revised on August 18, 2016. Washington’s PM_{2.5} SIL conforms to EPA’s draft SIL guidance for PM_{2.5}.

^d Not to exceed the highest 3-year average (5 years for a 5-year modeling analysis) of first high impacts.

^e Annual arithmetic mean

^f Not to be exceeded more than once per year on average over 3 years (5 years for a 5-year modeling analysis)

^g Annual arithmetic mean, averaged over 3 years (5 years for a 5-year modeling analysis)

^h 98th percentile of concentrations in a given year, averaged over 3 years (5 years for a 5-year modeling analysis)

ⁱ Annual arithmetic mean

3.3. PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

The PSD permit application must address impacts on Air Quality Related Values (AQRVs) in locations designated as Class I areas. The Federal Land Managers (FLMs) responsible for review of these impacts have established guidance documents to assist applicants in preparing the necessary information for this review. In addition, a

Attachment 16

Excerpt

TECHNICAL SUPPORT DOCUMENT (TSD)**August 2018****I. General Comments:****A. Company Information**

1. Tucson Electric Power (TEP) – Irvington Generating Station
2. Source Address: 3950 East Irvington Road, Tucson, AZ 85714.
Mailing Address: 88 East Broadway Blvd, Mail Stop HQW705, Tucson Arizona or
P.O. Box 711, Mail Stop HQW705, Tucson, AZ 85702.

B. Background

PDEQ received an application for a Prevention of Significant Deterioration (PSD) Authorization and Significant Revision to the Class I air quality permit (#1052) for the TEP – Irvington Generating Station (TEP-IGS or IGS) also known as the “H. Wilson Sundt Generating Station” on August 3, 2017 (revised December 2017). This TSD has been updated for this modification (See Attachment E for Previous TSD documents).

TEP’s objective for the proposed facility modification is to support a more responsive and sustainable resource portfolio for power production. TEP is expanding solar and wind resources with the goal of supplying at least 30 percent of retail energy load from renewable resources by 2030. Operational challenges associated with renewable resources require TEP to develop systems to manage the intermittency and variability of energy generated by renewable resources. TEP reports recent completion of three energy storage projects designed to partially overcome these operational challenges by providing grid balancing resources. To accomplish this in part, TEP is proposing to install up to ten natural-gas fired reciprocating internal combustion engines (RICE) at IGS. The proposed RICE units will provide capacity and will mitigate power fluctuations.

The fundamental business purpose of the proposed project is to modernize and expand the IGS to allow TEP to provide reliable, efficient, grid-balancing resources which can ramp up quickly and provide 100% of the effective load carrying capacity (ELCC) during peak periods of any length. The selection of RICE units to meet this business purpose is discussed in detail in TEP’s 2017 Integrated Resource Plan (IRP). In summary, TEP selected RICE units because they provide flexible, fast-responding power and assist in mitigating power fluctuations associated with renewable resources.¹

TEP identified installation of RICE units at IGS as the best option to expand generation and integrate renewable resources.² Because renewable resources produce power intermittently and TEP requires back up generation capability with fast start times (capable of being on-line at full load within 5 minutes); operation across a range of loads; and fast ramping (capable of ramping from 30% to 100% load in 40 seconds). According to TEP’s 2017 IRP, a Flexible Generation Technology Assessment was conducted which found that the RICE technology is the preferred technology to provide capacity and assist in

¹ Information obtained from the TEP 2017 IRP at: <http://www.tep.com/wp-content/uploads/2017/04/TEP-2017-Integrated-Resource.pdf>. Reviewed 15 September 2017.

² The “2017 Flexible Generation Technology Assessment” prepared for TEP (March 2017), included a review of various technologies including simple cycle gas turbines, reciprocating engines, combined cycle gas turbines, solar photovoltaic, wind generation and battery storage technologies. According to TEP’s 2017 IRP, RICE units were selected because of their fast response, flexibility, and efficiency.

- 17.16.160 Standards of Performance for Fossil-Fuel Fired Steam Generators and General Fuel Burning Equipment
- 17.16.165 Standards of Performance for Fossil-Fuel Fired Industrial and Commercial Equipment
- 17.16.340 Standards of Performance for Stationary Rotating Machinery
- 17.16.430 Standards of Performance for Unclassified Sources
- 17.16.490 Standards of Performance for New Stationary Sources
- 17.16.560 Permits for Sources Located in Nonattainment Areas
- 17.16.590 Permits for Sources Located in Attainment and Unclassifiable Areas
- 17.16.600 Air Quality Impact Analysis and Monitoring Requirements
- 17.16.630 Visibility Protection

4. Installation Permit #1156 – October 14, 1981 by Arizona Department of Health Services (Attachment F)

B. Standards which are not applicable:

1. PSD/NSR

RICE01 through RICE10 have netted out of PSD (40 CFR 52.21) for NO_x.

RICE01 through RICE10 are exempt from 40 CFR Parts 74, 75, and 76.

C. Promulgated standards which will be or may be applicable not addressed by the permit:

No promulgated standards which may be applicable have been identified that are not addressed by the permit.

D. Promulgated standards which will be or may be applicable after issuance of the permit that have been addressed by the permit:

No promulgated standards which may be applicable after issuance have been addressed by the permit.

VI. Previous Permit Conditions

No previous permit conditions were removed from the permit as part of this modification.

VII. Applicability Determinations

1. Prevention of Significant Deterioration (PSD)

The regulated air pollutants which will be emitted by the RICE units include CO, NO_x, VOC, SO₂, PM, PM less than or equal to 10 micrometers (µm) in diameter (PM₁₀), PM less than or equal to 2.5 µm in diameter (PM_{2.5}), GHG, and HAPs. The project is located in an area designated as “attainment” or “unclassifiable” with respect to the National Ambient Air Quality Standards (NAAQS) for nitrogen dioxide (NO₂), CO, SO₂, PM, PM₁₀, PM_{2.5}, and lead. The project may be subject to PSD review for NO_x, CO, VOC, PM₁₀, PM_{2.5}, and GHG. The objective of the PSD program is to prevent significant adverse environmental impact from emissions into the atmosphere from a proposed new major source or major modification at an existing major source in an attainment area by limiting allowable degradation of air quality to below levels that would be considered “significant.”

There are two criteria for determining PSD applicability. The first is whether the proposed project is sufficiently large, in terms of potential emissions, to be a “major stationary source” or a “major modification” at an existing major source. TEP is an existing “Major Stationary Source” per 40 CFR

52.21(b)(1) of the federal PSD regulations because the facility is one of the 28 designated stationary source categories with potential emissions of 100 tpy or more of any regulated NSR pollutant.

The second criteria for PSD applicability under 40 CFR 52.21 requires that if a source or modification qualifies as major, its existing location must be formally designated as “attainment” or “unclassifiable” for any pollutant for which a national ambient air quality standard exists under the PSD program. TEP is located in an area classified as either “attainment” or “unclassifiable” with respect to the NAAQS for SO₂, NO₂, CO, PM₁₀, PM_{2.5} and lead. Therefore, the Project meets both criteria and may be subject to PSD review for these pollutants. In addition, EPA’s Tailoring Rule requires that if GHG emissions (expressed as CO₂e) are greater than or equal to 75,000 tons per year for a project that triggers PSD review for another pollutant, then GHG emissions are also considered a PSD pollutant. Since potential GHG emissions from the Project will exceed 75,000 tpy, GHG emissions may also be subject to PSD review and need to be included in any PSD determination of BACT.

A major modification is defined as a physical change or change in the method of operation at an existing major source that would result in both a significant emissions increase and a significant net emissions increase of a regulated NSR pollutant. The RICE project will result in the emissions increases as shown in the Table 3 below. The significant emissions increase analysis looks only at the emissions increases from the RICE project. The project will result in a significant emission increase of NO_x, VOC, CO, PM₁₀, PM_{2.5}, and GHG.

Because the project results in a significant emission increase, a significant net emissions increase analysis was conducted. The significant net emissions increase evaluates increases and decreases from “contemporaneous” projects at the source. EPA explains in Federal Register Volume 67, Number 251, Tuesday December 31, 2002 that “if your calculations show that a significant emissions increase will result from a modification, you have the option of taking into consideration any contemporaneous emissions changes that may enable you to “net out” of [PSD] review, that is, show that the net emissions increase at the major stationary source will not be significant.”

A significant net emissions increase analysis was conducted for NO_x. The RICE project will involve constructing new emissions units (RICE01 through RICE10) and shutting down existing emission units I1 and I2. The permit requires Units I1 and I2 to be permanently shut down prior to startup of the first RICE unit. The net emissions increase, considering the Unit I1 and I2 shutdown and the proposed NO_x limit of 170.0 TPY for all 10 RICE, results in a net NO_x emission increase of less than the significant emission rate. Therefore, PSD is not applicable to NO_x.

**Table 3
Project Net Emissions Increase Evaluation**

Pollutant	Project Emissions (TPY)	Emission Decreases from I1 and I2 Shutdown (TPY)	Net Emissions Increase (TPY)	PSD Significant Emission Rate (SER) (TPY)	PSD Review Required?
NO _x	170.0	139.4	30.6	40	N
PM ₁₀	109.4	-	109.4	15	Y
PM _{2.5}	109.4	-	109.4	10	Y
PM	0.5	-	0.5	25	N
SO ₂	14.2	-	14.2	40	N
CO	256.9	-	256.9	100	Y
VOC	215.4	-	215.4	40	Y
GHG	792,630	-	792,630	75,000	Y

TEP did not claim any creditable decreases for PM₁₀, PM_{2.5}, CO, VOC, and GHG. Therefore, the significant emission increase is equal to the significant net emission increase and the modification triggered PSD for PM₁₀, PM_{2.5}, CO, VOC, and GHG for the RICE. Because the project is a major modification for CO, VOC, PM₁₀, PM_{2.5}, and GHG, these five pollutants trigger a BACT determination. The project requires a PSD air impact analysis for VOC, CO, PM₁₀, and PM_{2.5}. The air impact analysis is required to evaluate the project impacts with regard to the National Ambient Air Quality Standards (NAAQS), PSD Class II increments, and PSD Class I increments at the eastern and western units of Saguaro National Park (SNP) and Galiuro Wilderness Area (GWA).

A PSD air quality dispersion modeling analysis was prepared for the three criteria pollutants that trigger PSD review (CO, PM₁₀, PM_{2.5}). Because the resulting NO_x emissions are below the NO_x significant emission rate of 40 tons per year, the NO_x emissions do not trigger New Source Review under PSD regulations and air dispersion modeling was not performed for NO_x. The dispersion modeling analysis was performed using AERMOD and included:

- An analysis of existing background monitoring concentrations relative to the NAAQS to confirm that significant impact levels (SILs) can be used in the analysis;
- Dispersion modeling to determine whether ambient impacts caused by the Project emissions exceed the SILs;
- An assessment of the proposed Project's impacts to soils, vegetation, and visibility;
- An assessment of regional population growth and associated emissions that may be caused by the proposed Project; and
- An assessment of the proposed Project's potential to affect increments, visibility, or other air quality related values (AQRVs) in Class I areas.

The modeling demonstration was conducted based on a merged stack configuration. As a result, the Project is required to construct the RICE exhaust stacks in a manner consistent with the merged stack model approach. The RICE exhaust stacks must be configured into two groups of five stacks per group. Within each group of five there are two clusters, one of three stacks and one of two stacks each separated by slightly less than one diameter (outside edge to outside edge) from the other stack(s) in the cluster for a total of four clusters (of either two or three stacks) in two groups.

The modeling analysis demonstrates that the Project does not result in air quality impacts above the SILs for CO, PM₁₀ and PM_{2.5} and does not cause or contribute to an exceedance of any NAAQS or PSD increments for these pollutants. Similarly, an analysis of Project emissions of VOC in relation to emission rates in prior modeling analyses was used to demonstrate that the Project does not result in air quality impacts above the SILs for ozone and does not cause or contribute to an exceedance of the ozone NAAQS. The detailed Air Impact Analysis documentation is included Attachment C.

Because the project is a major modification for CO, VOC, PM₁₀, PM_{2.5}, and GHG, these five pollutants require BACT emission limits. A full top-down BACT analysis was conducted to identify BACT for each pollutant. Before initiating the BACT analysis for a given emission unit and a given pollutant, the minimum acceptable level of control allowed under an applicable New Source Performance Standard (NSPS) or National Emission Standard for Hazardous Air Pollutants (NESHAP) as identified as the BACT "baseline". Next, an evaluation was conducted using the five-step "top-down" approach recommended by the United States Environmental Protection Agency (USEPA). The five steps of a top-down BACT analysis are:

- Step 1: Identify all available control technologies with practical potential for application to the emission unit and regulated pollutant under evaluation;
- Step 2: Eliminate all technically infeasible control technologies;

- Step 3: Rank remaining control technologies by effectiveness and tabulate a control hierarchy;
- Step 4: Evaluate most effective controls and document results; and
- Step 5: Select BACT, which will be the most effective practical option not rejected, based on economic, environmental, and/or energy impacts.

For existing sources that trigger PSD, 40 CFR §52.21(j)(3) states that BACT applies to each proposed emissions unit at which a net emissions increase would result from the change. The proposed project will result in a net emissions increase in PM10; PM2.5; CO; VOC; and GHG. The BACT review applies to the following proposed emission units and associated pollutants:

- RICE units – PM10, PM2.5, CO, VOC, GHG (carbon dioxide [CO₂], nitrous oxide [N₂O], methane [CH₄])
- Natural gas piping – GHG (CH₄)
- High voltage circuit breakers – GHG (sulfur hexafluoride [SF₆])

PM10/PM2.5 BACT for the RICE is determined to be 2.5 pounds PM10/PM2.5 per hour for non-startup operation. PM10/PM2.5 BACT for startup is: 1) minimize time spent at idle, 2) 30-minute startup duration limit, and 3) operation according to manufacturer specifications for minimizing emissions. Although 2.5 lb/hr is deemed BACT for non-startup operation, the PM10/PM2.5 emission limit in the permit (2.37 lb/hr) is based on the BACT determination and the dispersion modeling analysis. The dispersion modeling analysis includes startup emissions and requires an emission limit of 2.37 lb/hr to demonstrate compliance (see Attachment D for details). It is notable that the NEO California Power Plant (now California Power Holdings, LLC) contains a PM10 limit that was not considered in the BACT determination. The Tehama County APCD established a 0.02 g/hp-hr PM10 BACT limit for the NEO California Power RICE. This limit is more stringent than the PM10/PM2.5 BACT limit established for the TEP RICE units, which is 0.04 g/hp-hr. However, based on conversations with Tehama County APCD, the RICE units have not been tested to confirm this emission limit. Therefore, the NEO California RICE units are using a calculated emission rate of 0.02 g/bhp-hr, as opposed to stack testing to demonstrate compliance. Therefore, the 0.02 g/hp-hr PM10 emission limit is not considered to be demonstrated in practice, and thus, the 0.02 g/hp-hr PM10 emission rate is not included in the BACT analysis for the TEP RICE.

BACT for the RICE during non-startup operations is established to be 4.43 pounds of CO per hour and 4.49 pounds of VOC per hour. The CO and VOC BACT requirements for startup are to 1) minimize time spent at idle, 2) limit startup periods to no more than 30-minutes, and 3) operation according to manufacturer specifications for minimizing emissions. The CO and VOC emission limits in the permit reflect the BACT determination (4.43 lb/hr and 4.49 lb/hr, respectively). Table 4 details the BACT emission rates.



1. AIR IMPACT ANALYSIS OVERVIEW

Tucson Electric Power (“TEP” or “the Applicant”) has submitted a Prevention of Significant Deterioration (PSD) construction permit application to modify the Irvington Generating Station (IGS). The proposed project includes installation of ten identical natural gas-fired reciprocating internal combustion engines (RICE) manufactured by Wartsila and the retirement of two existing natural-gas fired units, designated “No. 1” and “No. 2.” The project triggers PSD review for carbon monoxide (CO) and particulate matter (PM) with an aerodynamic diameter less than or equal to 10 microns (PM₁₀) and PM with an aerodynamic diameter less than or equal to 2.5 microns (PM_{2.5}) and volatile organic compounds (VOC). As a result, an air impact analysis is required to evaluate the project impacts with regard to the National Ambient Air Quality Standards (NAAQS), PSD Class II increments, and PSD Class I increments at the eastern and western units of Saguaro National Park (SNP) and Galiuro Wilderness Area (GWA).

As part of the application, the Applicant submitted an air quality modeling protocol to the Pima County Department of Environmental Quality (PDEQ) on 23 June 2017. The modeling protocol indicated that TEP would perform the air impact analysis as follows:

- Use of the latest version of the United States Environmental Protection Agency (USEPA) American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD), version 16216R air dispersion model to evaluate impacts of the three criteria pollutants for which this project triggers PSD review. Use of the latest version of USEPA’s VISCREEN tool to evaluate visibility impacts at the eastern and western units of SNP and GWA.
- Use of VISCREEN to evaluate the proposed RICE and separately evaluate the shutdown of existing Units 1 and 2, and then to determine impacts on visibility by subtracting the VISCREEN results from shutting down Units 1 and 2 from the VISCREEN results for the RICE.
- Stack height of 150 feet for each RICE.
- Use of the rural dispersion coefficient option in AERMOD based on land-use classifications within 3 kilometers (km) of the project site.



- Evaluation of the 10 RICE exhaust stacks as two groups of merged stacks, with five stacks in each group.

The modeling protocol was reviewed by PDEQ and Region 9 of the USEPA (USEPA Region 9) and was conditionally approved on 1 September 2017, if the following items were addressed in the final project design:

- The entire facility property boundary will be fenced; and
- Each stack in a group of merged stacks will be within one stack diameter of every other stack in the group.

An initial Air Impact Analysis report was also submitted by the applicant to PDEQ at the time that the modeling protocol was received. Based on comments regarding the modeling analysis received from PDEQ and USEPA Region 9, an addendum to the protocol was submitted to PDEQ on 10 October 2017. The addendum to the protocol included the following revisions:

- A revised merged stack approach to merge the 10 stacks into two groups of 3 stacks and two groups of 2 stacks. This merged stack configuration was incorporated to satisfy USEPA's policy that only stacks within one stack diameter of each other may be merged for modeling purposes.
- The stack height of each RICE was increased from 150 to 160 feet.
- The dispersion coefficients used in AERMOD for the modeling analysis were changed to urban to address comments received from USEPA Region 9, in consultation with USEPA's Office of Air Quality Planning and Standards (OAQPS), based on the population density of the area in the vicinity of the project.
- PLUVUE II was used to determine visibility impacts from the proposed RICE at the eastern and western units of SNP and GWA rather than VISCREEN to address comments received from USEPA Region 9 and the National Park Service (NPS).

2. MODELING BASIS

A PSD air quality dispersion modeling analysis was prepared for the three criteria pollutants that trigger PSD review, CO, PM₁₀, PM_{2.5}. PSD requirements do not



necessitate an analysis for criteria pollutants that do not trigger PSD review. The project emissions of nitrogen oxides (NO_x) were calculated as the emissions from the proposed 10 RICE units minus the emissions from the natural gas-fired units to be retired (No. 1 and No. 2). The resulting NO_x emissions are below the NO_x significant emission rate of 40 tons per year (TPY). Therefore, the NO_x emissions do not trigger New Source Review under PSD regulations and air dispersion modeling was not performed for NO_x.

The dispersion modeling analysis included the following components:

- An analysis of existing background monitoring concentrations relative to the NAAQS to confirm that significant impact levels (SILs) can be used in the analysis;
- Dispersion modeling to determine whether ambient impacts caused by the Project emissions exceed the SILs;
- An assessment of the proposed Project's impacts to soils, vegetation, and visibility;
- An assessment of regional population growth and associated emissions that may be caused by the proposed Project; and
- An assessment of the proposed Project's potential to affect increments, visibility, or other air quality related values (AQRVs) in Class I areas.

3. AIR IMPACT ANALYSIS RESULTS SUMMARY

This modeling analysis demonstrates that the Project does not result in air quality impacts above the SILs for CO, PM₁₀ and PM_{2.5} and does not cause or contribute to an exceedance of any NAAQS or PSD increments for these pollutants. The NAAQS, Class II PSD increments, and Class II SILs are summarized in Table 3-1.



Table 3-1. SILs, NAAQS, PSD Class I and Class II Increments. ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Period	Class I SIL	Class II SIL	NAAQS	PSD Class I Increment	PSD Class II Increment
CO	8-hour	n/a	500	10,000	n/a	n/a
	1-hour	n/a	2,000	40,000	n/a	n/a
PM ₁₀	Annual	0.2	1	n/a	4	17
	24-hour	0.3	5	150	8	30
PM _{2.5}	Annual	0.05	0.3	15	1	4
	24-hour	0.27	1.2	35	2	9

The procedures used for the air quality impact analysis (AQIA) comply with USEPA guidance for performing air quality analyses as described in: Chapter C of USEPA's "New Source Review Workshop Manual", Draft - October 1990; EPA's "Guideline on Air Quality Models"; 40 C.F.R. Part 51; Appendix W in USEPA's "AERMOD Users Guide" and related addendums; and EPA's updated PM_{2.5} analysis guidance.

3.1 Background Concentrations

In accordance with pre-construction air monitoring requirements¹, an application for a PSD permit must contain an analysis of ambient air quality in the vicinity of the proposed Project for each pollutant subject to PSD review. The definition of existing air quality can be satisfied by air measurements from either a state-operated or private network, or by a pre-construction air monitoring program that is specifically designed to collect data in the vicinity of the proposed source. A source can fulfill the PSD pre-construction air monitoring requirement without conducting on-site monitoring if data collected from existing air monitoring sites are representative of the air quality in the vicinity of the proposed Project site.

The existing air monitoring data must be determined by the reviewing authority to be representative of air quality for the area in which the proposed project would be constructed and operated. The USEPA document "Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD)" (EPA-450/4-87-007, May 1987) was reviewed to determine whether the existing air monitoring data is representative of the project. Three major items need to be considered in determining the

¹ 40 CFR 52.21(m)



representativeness of existing data: 1) ambient monitor location, 2) quality of the data, and 3) temporal representativeness (how current the data is). These three criteria are discussed in more detail below.

Each of the monitoring locations selected by the applicant are in the vicinity of the proposed project as shown in Figure 3-1 of the permit application. The selected CO monitor located at 1237 S. Beverly Avenue (referred to as the 22nd and Craycroft site) is approximately 5 km northeast of IGS. The South Tucson PM10 monitor is located approximately 6 km northwest of IGS and the Children's Park PM2.5 monitor is located approximately 15 km north-northwest of IGS. Based on the wind rose presented in Figure 4-1 of the permit application, emissions from IGS and other sources in the downtown Tucson area would impact these monitors. Therefore, the selected monitors are appropriate for the evaluation.

USEPA maintains data capture statistics for monitors in their design value tables. Data capture for the CO monitor is 99%, 96% for the PM₁₀ monitor, and 95% for the PM_{2.5} monitor. The selected monitors meet the 80% data capture requirement for PSD monitoring² for the most recent three-year period available (2014-2016).

For temporal representativeness, monitoring data from the most recent one-year period preceding submittal of the PSD permit application is preferred. The applicant met this criteria through the use of the three most recent complete years of monitoring data (2014-2016) preceding the year of application submittal. Background concentrations for the pollutants considered in the air dispersion modeling analysis (CO, PM₁₀, and PM_{2.5}) are presented in Table 3-2.

² USEPA (EPA-450/4-87-007, May 1987)



Table 3-2. Summary of CO, PM₁₀, and PM_{2.5} Background Concentration and Comparison of Total of the Background Concentration and SIL to NAAQS

Pollutant	Monitor Location	Averaging Period	Units	Background Conc. ¹	Significant Impact Level (SIL)	Total of Background Conc. and SIL	National Ambient Air Quality Standard
CO	1237 S. Beverly	1-hour	ppm	1.2	1.75 ²	2.95	358
		8-hour	ppm	0.7	0.44 ²	1.14	9
PM ₁₀	South Tucson	24-hour	µg/m ³	101	5.0 ²	106	150
PM _{2.5}	Children's Park NCORE	24-hour	µg/m ³	11	1.2 ³	12.2	35
		Annual	µg/m ³	5.1	0.3 ³	5.4	12

Footnotes:
¹Background Concentrations based on 2014-2016 monitoring period.
²40 CFR 51.165(b)(2).
³Guidance for PM_{2.5} Modeling

Recent USEPA guidance³ indicates that modeled impacts should only be compared to the SIL when the background monitor values, when added to the SILs, are below the NAAQS. As shown in the table above, the combined total of the background monitor value and the SIL is below the respective NAAQS for each pollutant and averaging period. Accordingly, a demonstration that the modeled concentrations are below their respective SIL, would waive the requirement to conduct cumulative modeling.

3.2 Dispersion Modeling

AERMOD was used for the air quality analyses, with the regulatory default option set. AERMOD is a steady-state plume dispersion model that simulates transport and dispersion from multiple point, area, or volume sources based on an up-to-date characterization of the atmospheric boundary layer. AERMOD uses Gaussian distributions in the vertical and horizontal planes for stable conditions, and in the

³ Revised Draft Guidance on Significant Impact Levels for Ozone (O₃) and PM_{2.5}, dated August 18, 2016



horizontal plane for convective conditions; the vertical distribution for convective conditions is based on a bi-Gaussian probability density function of the vertical velocity. For elevated terrain AERMOD incorporates the concept of the critical dividing streamline height, in which flow below this height remains horizontal, and flow above this height rises up and over terrain. AERMOD also uses the advanced PRIME algorithm to account for building wake effects.

The regulatory default option requires the use of terrain elevation data, stack-tip downwash, sequential date checking, and does not permit the use of the model in the SCREEN mode. In the regulatory default mode, pollutant half-life or decay options are not to be employed. The regulatory default option without changes was employed for this AERMOD analysis.

AERMOD incorporates both rural and urban processing options, which affect the dispersion rates used in calculating ground-level pollutant concentrations. Based on the population density in the vicinity of the project site, EPA Region 9 stipulated the use of urban dispersion coefficients. Accordingly, AERMOD modeling was performed using the urban settings.

3.3 Emission and Stack Data

Emissions resulting from engine operation were modeled assuming 8,760 hours of operation per year for each of the ten engines. Wartsila, the manufacturer of the proposed RICE, provided the following CO, PM₁₀, and PM_{2.5} cold startup emission rates.

Table 3-3. Manufacturer Provide Cold Startup CO, PM₁₀, and PM_{2.5} Emission Rates

Startup	CO Emission Rate¹ (lb/30 min.)	PM₁₀/PM_{2.5} Emission Rate¹ (lb/30 min.)
Cold	9.1	1.80
(1) A cold catalyst start is when the temperature of the catalyst material inside the reactor is close to ambient temperature. Cold catalyst starts are expected after over haul periods or when the engine has not been operated during the last 2-3 days.		



Cold startups are to be completed within 30 minutes of initiation of the startup. Operational limitations will be incorporated into the permit conditions to require startup to be completed within 30 minutes.

The emission rates during startup conditions are either equal to or greater than the emissions during normal operations; therefore, the startup emission rates were included in the worst-case scenario modeled.

Wartsila, provided the following CO, PM₁₀, and PM_{2.5} emission rates and exhaust parameters for non-startup operation of the RICE at various loads for ambient conditions similar to the proposed project location.

Table 3-4. Summary of Non-Startup CO, PM₁₀, and PM_{2.5} Emission Rates and Exhaust Parameters for the RICE at 100%, 50%, and 25% Loads

RICE Load (%)	CO Emission Rate ¹ (lb/hr)	PM ₁₀ /PM _{2.5} Emission Rate ¹ (lb/hr)	Exhaust Gas Exit Temperature (deg. F)	Exhaust Gas Flow Rate (lb/s)
100	2.64	1.78	672	64.8
50	1.85	1.47	801	33.8
25	1.14	0.96	807	21.0

Footnote:
¹Emission rates are per engine under ambient conditions of 90°F, 9% relative humidity, and altitude of 2,630 ft.

The emission rates provided by Wartsila are not guaranteed. The PM₁₀ and PM_{2.5}, non-startup emission rates were buffered by a factor of 1.33 to account for potential variability in the compliance test methodology (EPA stack test methods). CO non-startup emission rates were not buffered because the CO compliance test method utilizes an instrumental analyzer method which is not subject to the same variability as the particulate emission sampling methods.

For PM₁₀ and PM_{2.5}, daily emission rates were based on 5 startups and 21.5 hours of non-startup (normal) emissions. These daily emission rates were used for the 24-hour and annual averaging periods. For the 8-hour averaging period for CO, the emission rate was based on eight hours of startup emissions. For the 1-hour averaging period for CO, the emission rate was based on the combined emissions from two 30-minute



startups. Emission rate calculations for the appropriate pollutant-specific averaging periods for modeling are presented in Table 3-5.

Table 3-5. Calculation of CO, PM₁₀, and PM_{2.5} Emission Rates used in the Modeling Analysis

Pollutant	Load (%)	Wartsila Provided Emission Rate (lb/hr)	Buffering Factor	Buffered Emission Rate (lb/hr)	Startup Emission Rate (lb/30 min.)	CO 1-Hour Average Emission Rate ¹ (lb/hr)	CO 8-Hour Average Emission Rate ¹ (lb/hr)	PM ₁₀ /PM _{2.5} 24-hour Average Emission Rate ² (lb/hr)	PM ₁₀ /PM _{2.5} Annual Average Emission Rate ² (lb/hr)
CO	100	2.64	1	2.64	9.1	18.20	18.20	--	--
	50	1.85	1	1.85	9.1	18.20	18.20	--	--
	25	1.14	1	1.14	9.1	18.20	18.20	--	--
PM ₁₀	100	1.78	1.331	2.37	1.8	--	--	2.50	2.50
	50	1.47	1.331	1.96	1.8	--	--	2.13	2.13
	25	0.96	1.331	1.28	1.8	--	--	1.52	1.52
PM _{2.5}	100	1.78	1.331	2.37	1.8	--	--	2.50	2.50
	50	1.47	1.331	1.96	1.8	--	--	2.13	2.13
	25	0.96	1.331	1.28	1.8	--	--	1.52	1.52

Footnotes:

¹ For CO, the startup emission rate of 9.1 lb/30 min. was assumed for every hour of operation.

² For PM₁₀ and PM_{2.5} 24-hour average and annual emission rates were calculated based on 21.5 hours of operation at the buffered emission rate and 5 startups per day divided by 24 hours (e.g., $((21.5 \times 2.37 \text{ lb/hr}) + (5 \times 1.8 \text{ lb}/0.5 \text{ hr}))/24 = 2.5 \text{ lb/hr}$).

A summary of the CO, PM₁₀, and PM_{2.5} Emission Rates Used in the Modeling Analysis for Varying Operational Loads and Pollutant-Specific Averaging Periods is shown in Table 3-6.



Table 3-6. Summary of CO, PM₁₀, and PM_{2.5} Emission Rates for Applicable Pollutant-Specific Averaging Period and RICE Operating Loads

Pollutant	NAAQS Averaging Period	RICE Load (%)	Emission Rate (lb/hr)
CO	1-hour	25	18.2
		50	18.2
		100	18.2
	8-hour	25	18.2
		50	18.2
		100	18.2
PM ₁₀	24-hour	25	1.52
		50	2.13
		100	2.50
	Annual	25	1.52
		50	2.13
		100	2.50
PM _{2.5}	24-hour	25	1.52
		50	2.13
		100	2.50
	Annual	25	1.52
		50	2.13
		100	2.50

These CO, PM₁₀, and PM_{2.5} emission rates for each operating load were used for each RICE in the modeling analysis to determine impacts for pollutant-specific averaging periods.

Exhaust flow, and exhaust temperature may vary with load. Accordingly, the Applicant performed a modeling analysis of various operating loads (a load screening analysis). The stack exhaust parameters used in the modeling analysis for each load condition (25%, 50%, and 100% operation) were calculated using the exhaust temperature and mass flow rates provided by Wartsila. A summary of these calculations is provided in Table 3-7.



Table 3-7. Summary of Calculations of RICE Stack Exhaust Parameters for Each Operating Load.

Operating Load (%)	Wartsila Provided Exhaust Gas Mass Flow (lb/s)	Wartsila Provided Exhaust Gas Temp. (°F)	Exhaust Gas Molecular Weight (lb/lb mole)	Air at Standard Conditions (SCFM/lb mole)	Exhaust Flow Rate (ft ³ /s)	Exit Velocity ¹ (ft/s)
25	21.0	704	28.6	385.55	747	34.50
50	33.8	700	28.6	385.55	1,193	55.15
100	64.8	629	28.6	385.55	2,058	95.12

Footnote:

¹Based on a proposed stack diameter of 5.3125 feet.

The emission rates by pollutant and averaging period, the exhaust flow rates and the stack exhaust temperatures for the 100%, 50 %, and 25% load levels are presented in the Table 3-8. The modeled stack height and stack diameter for each RICE is 160 feet and 5.3125 feet, respectively.

Table 3-8. Summary of Load Analysis Emission Rate and Stack Exhaust Parameters (Per RICE)

Pollutant	Load Level (percent)	Emission Rate (lb/hr)	Exhaust Flow (ACFM)	Exhaust Temperature (°F)	Exhaust Velocity (ft/sec)
CO	25	18.22	44,776	704	34.5
	50	18.22	71,733	700	55.1
	100	18.22	123,454	629	95.1
PM ₁₀	25	1.52	44,776	704	34.5
	50	2.14	71,733	700	55.1
	100	2.50	123,454	629	95.1
PM _{2.5}	25	1.52	44,776	704	34.5
	50	2.14	71,733	700	55.1
	100	2.50	123,454	629	95.1



As described in the addendum to the modeling protocol and modeling report, the applicant merged the 10 RICE stacks into 2 groups of 5 stacks. Within each group there are is a cluster of 2 stacks and a cluster of 3 stacks for modeling purposes. The stack merging approach is consistent with EPA policy that stacks within one stack diameter of other stacks may be merged and treated as a single stack for modeling purposes. The merged stack parameters (e.g., exhaust flow and stack diameter) were calculated using the procedures described in EPA 454/R-92-019, Chapter 2-2, Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised, October 1992. A summary of the merged stack parameters used in the load screening analysis is presented in Table 3-9.

Table 3-9. Summary of Merged Stack Parameters Used in the Air Dispersion Modeling Analysis

Operating Load (%)	Number of Merged Stacks	Wartsila Provided Exhaust Gas Temperature (°F)	Exhaust Flow Rate (ft ³ /s)	Equivalent Stack Diameter (ft)	Exit Velocity (ft/s)	Stack Height (ft)
25	2	704	1,494	7.42	34.52	160
	3	704	2,241	9.09	34.52	160
50	2	700	2,386	7.42	55.14	160
	3	700	3,579	9.09	55.14	160
100	2	629	4,116	7.42	95.12	160
	3	629	6,174	9.09	95.12	160

The depiction of the RICE stacks merged into this described configuration is presented in Figure 2 of Appendix B of Revision 1 of the PSD modeling report submitted by the applicant on 8 November 2017.

3.4 Class II Significant Impact Level Modeling Analysis

The load screening analysis was performed using AERMOD for the entire 5-year meteorological data set (2012 through 2016). The results of the load screening analysis for CO, PM₁₀ and PM_{2.5} are presented in Table 3-10.

**Table 3-10. Summary of Modeled Results of the Load Screening Analysis**

Pollutant	Averaging Period	25% Load Max. Conc. ($\mu\text{g}/\text{m}^3$)	50% Load Max. Conc. ($\mu\text{g}/\text{m}^3$)	100% Load Max. Conc. ($\mu\text{g}/\text{m}^3$)	Class II Significant Impact Level ($\mu\text{g}/\text{m}^3$)	Exceeds Significant Impact Level? (Yes or No)
CO	1-Hour ¹	78.350	55.11	31.111	2000	No
	8-Hour ¹	34.635	26.58	20.103	500	No
PM ₁₀	24-Hour ¹	1.269	1.283	1.120	5	No
	Annual ¹	0.190	0.194	0.167	1	No
PM _{2.5}	24-Hour ²	1.012	1.039	0.925	1.2	No
	Annual ²	0.181	0.182	0.157	0.3	No
Note: Bold text indicates the maximum modeled concentration for each pollutant and averaging period. Footnotes: ¹ Highest concentration over the five-year period (2012-2016). ² Maximum concentration averaged over 5-years.						

As shown in the table, the highest predicted 1- and 8-hour average CO concentrations occur when the 10 RICE are modeled operating at 100% load. Maximum PM₁₀ and PM_{2.5} concentrations occur when operating at 50% load. In all cases, the predicted concentrations for each pollutant and each averaging period were below the respective SIL. Based on USEPA guidance⁴, if the highest modeled pollutant concentration for a given project are below the SIL, and the SIL, when added to an appropriate background concentration is below the NAAQS for a given pollutant and averaging period, no further modeling is required to demonstrate compliance with NAAQS or PSD Class II increments. Accordingly, compliance is demonstrated for CO, PM₁₀, and PM_{2.5} NAAQS and PSD Class II Increments and cumulative impact modeling is not required.

⁴ Revised Draft Guidance on Significant Impact Levels for Ozone O₃ and PM_{2.5}, dated August 18, 2016



3.5 PSD Class I Significant Impact Level Modeling Analysis

USEPA guidance⁵ recommends that a proposed project within 100 km of a Class I area perform a modeling analysis to evaluate compliance with PSD Class I Increments and AQRVs. In addition, Federal Land Managers (FLMs) may request that a PSD Class I Increment analysis be completed for large projects within 300 km of a Class I Area. The applicant identified ten Class I Areas within 300 km of the IGS, including: Chiricahua National Monument, Chiricahua Wilderness, Giliuro Wilderness (GWA), Gila Wilderness, Mazatzal Wilderness, Mount Baldy Wilderness, Pine Mountain Wilderness, Saguaro National Park (SNP) (East and West units), Sierra Ancha Wilderness, and Superstition Wilderness. There are no other Class I Areas within 300 km of IGS.

In 1996, during the rulemaking process⁶, USEPA proposed 24-hour average and annual PM₁₀ PSD Class I SILs of 0.3 and 0.2 µg/m³, respectively. Although these SILs were never promulgated they have been widely used in subsequent modeling analyses to evaluate project impacts on PSD Class I Areas. As a result, these SILs were used in the analysis for PM₁₀. Based upon USEPA guidance⁷, the 24-hour and annual Class I SILs for PM_{2.5} are 0.27 and 0.05 µg/m³, respectively.

The PSD Class I Area analysis submitted by the applicant considered the two Class I Areas within 100 km of IGS – SNP and GWA. FLMs did not request that a PSD Class I Area Increment analysis be completed for Class I Areas beyond 100 km of IGS.

Modeled receptors for SNP and GWA were obtained from the EPA Region 9 Class I database.

The results of the air dispersion modeling analysis to evaluate compliance with PSD Class I increments are presented in Table 3-11.

⁵ EPA Memorandum: Clarification of Prevention of Significant Deterioration Guidance for Modeling Class I Area Impacts, October 19, 1992

⁶ July 23, 1996, Federal Register (Volume 61, No. 142, Page 38249)

⁷ Revised Draft Guidance on Significant Impact Levels for O₃ and PM_{2.5}, dated August 18, 2016



Table 3-11. Summary of the Results of the Air Dispersion Modeling Analysis for PSD Class I Increments

Pollutant	Averaging Period	Maximum Concentration for 25% Operating Load ($\mu\text{g}/\text{m}^3$)	Maximum Concentration for 50% Operating Load ($\mu\text{g}/\text{m}^3$)	Maximum Concentration for 100% Operating Load ($\mu\text{g}/\text{m}^3$)	Class I Significant Impact Level ($\mu\text{g}/\text{m}^3$)	Significant Impact? (Yes or No)
Saguaro National Park – East						
PM ₁₀	24-Hour	0.053	0.061	0.06	0.3	No
	Annual	0.006	0.007	0.014	0.2	No
PM _{2.5}	24-Hour	0.039	0.046	0.045	0.27	No
	Annual	0.006	0.007	0.014	0.05	No
Saguaro National Park – West						
PM ₁₀	24-Hour	0.035	0.045	0.048	0.3	No
	Annual	0.007	0.009	0.012	0.2	No
PM _{2.5}	24-Hour	0.033	0.042	0.044	0.27	No
	Annual	0.007	0.009	0.012	0.05	No
Galiuro Wilderness Area						
PM ₁₀	24-Hour	0.007	0.009	0.009	0.3	No
	Annual	0.001	0.001	0.001	0.2	No
PM _{2.5}	24-Hour	0.006	0.007	0.008	0.27	No
	Annual	0.001	0.001	0.001	0.05	No

Note: Bold numbers indicate the maximum modeled concentration for each operating load for a given pollutant.

As shown in Table 3-11, modeled impacts for each pollutant and averaging period are below PSD Class I SILs at each of the selected Class I Areas within 100 km of the proposed project. Accordingly, the applicant was not required to perform a cumulative source modeling analysis considering other increment consuming sources.

STATUTES AND REGULATIONS

TABLE OF CONTENTS

Authority	Page
STATUTES	
5 U.S.C. § 706.....	ADD0001
42 U.S.C. §§ 7407-7411	ADD0003
42 U.S.C. § 7426.....	ADD0039
42 U.S.C. §§ 7470-7479	ADD0041
42 U.S.C. § 7492.....	ADD0064
42 U.S.C. § 7506a.....	ADD0068
42 U.S.C. § 7511a(c)(2)(A)	ADD0070
42 U.S.C. § 7547.....	ADD0073
42 U.S.C. § 7607.....	ADD0075
REGULATIONS	
40 C.F.R. Pt.50 App.N.....	ADD0082
40 C.F.R. § 50.18	ADD0092
40 C.F.R. § 50.19	ADD0093
40 C.F.R. § 51.165	ADD0094
40 C.F.R. § 51.166.....	ADD0137
40 C.F.R. § 52.21(c).....	ADD0197

STATUTES

United States Code Annotated
 Title 5. Government Organization and Employees (Refs & Annos)
 Part I. The Agencies Generally
 Chapter 7. Judicial Review (Refs & Annos)

5 U.S.C.A. § 706

§ 706. Scope of review

Currentness

To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of the terms of an agency action. The reviewing court shall--

- (1) compel agency action unlawfully withheld or unreasonably delayed; and
- (2) hold unlawful and set aside agency action, findings, and conclusions found to be--
 - (A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;
 - (B) contrary to constitutional right, power, privilege, or immunity;
 - (C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;
 - (D) without observance of procedure required by law;
 - (E) unsupported by substantial evidence in a case subject to [sections 556](#) and [557](#) of this title or otherwise reviewed on the record of an agency hearing provided by statute; or
 - (F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.

In making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party, and due account shall be taken of the rule of prejudicial error.

CREDIT(S)

(Pub.L. 89-554, Sept. 6, 1966, 80 Stat. 393.)

[Notes of Decisions \(3999\)](#)

5 U.S.C.A. § 706, 5 USCA § 706

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

End of Document

© 2018 Thomson Reuters. No claim to original U.S. Government Works.

United States Code Annotated
Title 42. The Public Health and Welfare
Chapter 85. Air Pollution Prevention and Control (Refs & Annos)
Subchapter I. Programs and Activities
Part A. Air Quality and Emissions Limitations (Refs & Annos)

42 U.S.C.A. § 7407

§ 7407. Air quality control regions

Effective: January 23, 2004

[Currentness](#)

(a) Responsibility of each State for air quality; submission of implementation plan

Each State shall have the primary responsibility for assuring air quality within the entire geographic area comprising such State by submitting an implementation plan for such State which will specify the manner in which national primary and secondary ambient air quality standards will be achieved and maintained within each air quality control region in such State.

(b) Designated regions

For purposes of developing and carrying out implementation plans under [section 7410](#) of this title--

(1) an air quality control region designated under this section before December 31, 1970, or a region designated after such date under subsection (c) of this section, shall be an air quality control region; and

(2) the portion of such State which is not part of any such designated region shall be an air quality control region, but such portion may be subdivided by the State into two or more air quality control regions with the approval of the Administrator.

(c) Authority of Administrator to designate regions; notification of Governors of affected States

The Administrator shall, within 90 days after December 31, 1970, after consultation with appropriate State and local authorities, designate as an air quality control region any interstate area or major intrastate area which he deems necessary or appropriate for the attainment and maintenance of ambient air quality standards. The Administrator shall immediately notify the Governors of the affected States of any designation made under this subsection.

(d) Designations

(1) Designations generally

(A) Submission by Governors of initial designations following promulgation of new or revised standards

By such date as the Administrator may reasonably require, but not later than 1 year after promulgation of a new or revised national ambient air quality standard for any pollutant under [section 7409](#) of this title, the Governor of each State shall (and at any other time the Governor of a State deems appropriate the Governor may) submit to the Administrator a list of all areas (or portions thereof) in the State, designating as--

(i) nonattainment, any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant,

(ii) attainment, any area (other than an area identified in clause (i)) that meets the national primary or secondary ambient air quality standard for the pollutant, or

(iii) unclassifiable, any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

The Administrator may not require the Governor to submit the required list sooner than 120 days after promulgating a new or revised national ambient air quality standard.

(B) Promulgation by EPA of designations

(i) Upon promulgation or revision of a national ambient air quality standard, the Administrator shall promulgate the designations of all areas (or portions thereof) submitted under subparagraph (A) as expeditiously as practicable, but in no case later than 2 years from the date of promulgation of the new or revised national ambient air quality standard. Such period may be extended for up to one year in the event the Administrator has insufficient information to promulgate the designations.

(ii) In making the promulgations required under clause (i), the Administrator may make such modifications as the Administrator deems necessary to the designations of the areas (or portions thereof) submitted under subparagraph (A) (including to the boundaries of such areas or portions thereof). Whenever the Administrator intends to make a modification, the Administrator shall notify the State and provide such State with an opportunity to demonstrate why any proposed modification is inappropriate. The Administrator shall give such notification no later than 120 days before the date the Administrator promulgates the designation, including any modification thereto. If the Governor fails to submit the list in whole or in part, as required under subparagraph (A), the Administrator shall promulgate the designation that the Administrator deems appropriate for any area (or portion thereof) not designated by the State.

(iii) If the Governor of any State, on the Governor's own motion, under subparagraph (A), submits a list of areas (or portions thereof) in the State designated as nonattainment, attainment, or unclassifiable, the Administrator shall act on such designations in accordance with the procedures under paragraph (3) (relating to redesignation).

(iv) A designation for an area (or portion thereof) made pursuant to this subsection shall remain in effect until the area (or portion thereof) is redesignated pursuant to paragraph (3) or (4).

(C) Designations by operation of law

(i) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(A), (B), or (C) of this subsection (as in effect immediately before November 15, 1990) is designated, by operation of law, as a nonattainment area for such pollutant within the meaning of subparagraph (A)(i).

(ii) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(E) (as in effect immediately before November 15, 1990) is designated by operation of law, as an attainment area for such pollutant within the meaning of subparagraph (A)(ii).

(iii) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(D) (as in effect immediately before November 15, 1990) is designated, by operation of law, as an unclassifiable area for such pollutant within the meaning of subparagraph (A)(iii).

(2) Publication of designations and redesignations

(A) The Administrator shall publish a notice in the Federal Register promulgating any designation under paragraph (1) or (5), or announcing any designation under paragraph (4), or promulgating any redesignation under paragraph (3).

(B) Promulgation or announcement of a designation under paragraph (1), (4) or (5) shall not be subject to the provisions of [sections 553 through 557 of Title 5](#) (relating to notice and comment), except nothing herein shall be construed as precluding such public notice and comment whenever possible.

(3) Redesignation

(A) Subject to the requirements of subparagraph (E), and on the basis of air quality data, planning and control considerations, or any other air quality-related considerations the Administrator deems appropriate, the Administrator may at any time notify the Governor of any State that available information indicates that the designation of any area or portion of an area within the State or interstate area should be revised. In issuing such notification, which shall be public, to the Governor, the Administrator shall provide such information as the Administrator may have available explaining the basis for the notice.

(B) No later than 120 days after receiving a notification under subparagraph (A), the Governor shall submit to the Administrator such redesignation, if any, of the appropriate area (or areas) or portion thereof within the State or interstate area, as the Governor considers appropriate.

(C) No later than 120 days after the date described in subparagraph (B) (or paragraph (1)(B)(iii)), the Administrator shall promulgate the redesignation, if any, of the area or portion thereof, submitted by the Governor in accordance with subparagraph (B), making such modifications as the Administrator may deem necessary, in the same manner and under the same procedure as is applicable under clause (ii) of paragraph (1)(B), except that the phrase “60 days” shall be substituted for the phrase “120 days” in that clause. If the Governor does not submit, in accordance with

subparagraph (B), a redesignation for an area (or portion thereof) identified by the Administrator under subparagraph (A), the Administrator shall promulgate such redesignation, if any, that the Administrator deems appropriate.

(D) The Governor of any State may, on the Governor's own motion, submit to the Administrator a revised designation of any area or portion thereof within the State. Within 18 months of receipt of a complete State redesignation submittal, the Administrator shall approve or deny such redesignation. The submission of a redesignation by a Governor shall not affect the effectiveness or enforceability of the applicable implementation plan for the State.

(E) The Administrator may not promulgate a redesignation of a nonattainment area (or portion thereof) to attainment unless--

(i) the Administrator determines that the area has attained the national ambient air quality standard;

(ii) the Administrator has fully approved the applicable implementation plan for the area under [section 7410\(k\)](#) of this title;

(iii) the Administrator determines that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the applicable implementation plan and applicable Federal air pollutant control regulations and other permanent and enforceable reductions;

(iv) the Administrator has fully approved a maintenance plan for the area as meeting the requirements of [section 7505a](#) of this title; and

(v) the State containing such area has met all requirements applicable to the area under [section 7410](#) of this title and part D of this subchapter.

(F) The Administrator shall not promulgate any redesignation of any area (or portion thereof) from nonattainment to unclassifiable.

(4) Nonattainment designations for ozone, carbon monoxide and particulate matter (PM-10)

(A) Ozone and carbon monoxide

(i) Within 120 days after November 15, 1990, each Governor of each State shall submit to the Administrator a list that designates, affirms or reaffirms the designation of, or redesignates (as the case may be), all areas (or portions thereof) of the Governor's State as attainment, nonattainment, or unclassifiable with respect to the national ambient air quality standards for ozone and carbon monoxide.

(ii) No later than 120 days after the date the Governor is required to submit the list of areas (or portions thereof) required under clause (i) of this subparagraph, the Administrator shall promulgate such designations, making such modifications as the Administrator may deem necessary, in the same manner, and under the same procedure,

as is applicable under clause (ii) of paragraph (1)(B), except that the phrase “60 days” shall be substituted for the phrase “120 days” in that clause. If the Governor does not submit, in accordance with clause (i) of this subparagraph, a designation for an area (or portion thereof), the Administrator shall promulgate the designation that the Administrator deems appropriate.

(iii) No nonattainment area may be redesignated as an attainment area under this subparagraph.

(iv) Notwithstanding paragraph (1)(C)(ii) of this subsection, if an ozone or carbon monoxide nonattainment area located within a metropolitan statistical area or consolidated metropolitan statistical area (as established by the Bureau of the Census) is classified under part D of this subchapter as a Serious, Severe, or Extreme Area, the boundaries of such area are hereby revised (on the date 45 days after such classification) by operation of law to include the entire metropolitan statistical area or consolidated metropolitan statistical area, as the case may be, unless within such 45-day period the Governor (in consultation with State and local air pollution control agencies) notifies the Administrator that additional time is necessary to evaluate the application of clause (v). Whenever a Governor has submitted such a notice to the Administrator, such boundary revision shall occur on the later of the date 8 months after such classification or 14 months after November 15, 1990, unless the Governor makes the finding referred to in clause (v), and the Administrator concurs in such finding, within such period. Except as otherwise provided in this paragraph, a boundary revision under this clause or clause (v) shall apply for purposes of any State implementation plan revision required to be submitted after November 15, 1990.

(v) Whenever the Governor of a State has submitted a notice under clause (iv), the Governor, in consultation with State and local air pollution control agencies, shall undertake a study to evaluate whether the entire metropolitan statistical area or consolidated metropolitan statistical area should be included within the nonattainment area. Whenever a Governor finds and demonstrates to the satisfaction of the Administrator, and the Administrator concurs in such finding, that with respect to a portion of a metropolitan statistical area or consolidated metropolitan statistical area, sources in the portion do not contribute significantly to violation of the national ambient air quality standard, the Administrator shall approve the Governor's request to exclude such portion from the nonattainment area. In making such finding, the Governor and the Administrator shall consider factors such as population density, traffic congestion, commercial development, industrial development, meteorological conditions, and pollution transport.

(B) PM-10 designations

By operation of law, until redesignation by the Administrator pursuant to paragraph (3)--

(i) each area identified in [52 Federal Register 29383 \(Aug. 7, 1987\)](#) as a Group I area (except to the extent that such identification was modified by the Administrator before November 15, 1990) is designated nonattainment for PM-10;

(ii) any area containing a site for which air quality monitoring data show a violation of the national ambient air quality standard for PM-10 before January 1, 1989 (as determined under [part 50, appendix K of title 40 of the Code of Federal Regulations](#)) is hereby designated nonattainment for PM-10; and

(iii) each area not described in clause (i) or (ii) is hereby designated unclassifiable for PM-10.

Any designation for particulate matter (measured in terms of total suspended particulates) that the Administrator promulgated pursuant to this subsection (as in effect immediately before November 15, 1990) shall remain in effect for purposes of implementing the maximum allowable increases in concentrations of particulate matter (measured in terms of total suspended particulates) pursuant to [section 7473\(b\)](#) of this title, until the Administrator determines that such designation is no longer necessary for that purpose.

(5) Designations for lead

The Administrator may, in the Administrator's discretion at any time the Administrator deems appropriate, require a State to designate areas (or portions thereof) with respect to the national ambient air quality standard for lead in effect as of November 15, 1990, in accordance with the procedures under subparagraphs (A) and (B) of paragraph (1), except that in applying subparagraph (B)(i) of paragraph (1) the phrase “2 years from the date of promulgation of the new or revised national ambient air quality standard” shall be replaced by the phrase “1 year from the date the Administrator notifies the State of the requirement to designate areas with respect to the standard for lead”.

(6) Designations

(A) Submission

Notwithstanding any other provision of law, not later than February 15, 2004, the Governor of each State shall submit designations referred to in paragraph (1) for the July 1997 PM_{2.5} national ambient air quality standards for each area within the State, based on air quality monitoring data collected in accordance with any applicable Federal reference methods for the relevant areas.

(B) Promulgation

Notwithstanding any other provision of law, not later than December 31, 2004, the Administrator shall, consistent with paragraph (1), promulgate the designations referred to in subparagraph (A) for each area of each State for the July 1997 PM_{2.5} national ambient air quality standards.

(7) Implementation plan for regional haze

(A) In general

Notwithstanding any other provision of law, not later than 3 years after the date on which the Administrator promulgates the designations referred to in paragraph (6)(B) for a State, the State shall submit, for the entire State, the State implementation plan revisions to meet the requirements promulgated by the Administrator under [section 7492\(e\)\(1\)](#) of this title (referred to in this paragraph as “regional haze requirements”).

(B) No preclusion of other provisions

Nothing in this paragraph precludes the implementation of the agreements and recommendations stemming from the Grand Canyon Visibility Transport Commission Report dated June 1996, including the submission of State

implementation plan revisions by the States of Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, or Wyoming by December 31, 2003, for implementation of regional haze requirements applicable to those States.

(e) Redesignation of air quality control regions

(1) Except as otherwise provided in paragraph (2), the Governor of each State is authorized, with the approval of the Administrator, to redesignate from time to time the air quality control regions within such State for purposes of efficient and effective air quality management. Upon such redesignation, the list under subsection (d) of this section shall be modified accordingly.

(2) In the case of an air quality control region in a State, or part of such region, which the Administrator finds may significantly affect air pollution concentrations in another State, the Governor of the State in which such region, or part of a region, is located may redesignate from time to time the boundaries of so much of such air quality control region as is located within such State only with the approval of the Administrator and with the consent of all Governors of all States which the Administrator determines may be significantly affected.

(3) No compliance date extension granted under [section 7413\(d\)\(5\)](#) of this title (relating to coal conversion) shall cease to be effective by reason of the regional limitation provided in [section 7413\(d\)\(5\)](#) of this title if the violation of such limitation is due solely to a redesignation of a region under this subsection.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 107, as added [Pub.L. 91-604](#), § 4(a), Dec. 31, 1970, 84 Stat. 1678; amended [Pub.L. 95-95, Title I, § 103](#), Aug. 7, 1977, 91 Stat. 687; [Pub.L. 101-549, Title I, § 101\(a\)](#), Nov. 15, 1990, 104 Stat. 2399; [Pub.L. 108-199](#), Div. G, Title IV, § 425(a), Jan. 23, 2004, 118 Stat. 417.)

[Notes of Decisions \(57\)](#)

42 U.S.C.A. § 7407, 42 USCA § 7407

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part A. Air Quality and Emissions Limitations (Refs & Annos)

42 U.S.C.A. § 7408

§ 7408. Air quality criteria and control techniques

Effective: November 10, 1998

[Currentness](#)

(a) Air pollutant list; publication and revision by Administrator; issuance of air quality criteria for air pollutants

(1) For the purpose of establishing national primary and secondary ambient air quality standards, the Administrator shall within 30 days after December 31, 1970, publish, and shall from time to time thereafter revise, a list which includes each air pollutant--

(A) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare;

(B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and

(C) for which air quality criteria had not been issued before December 31, 1970 but for which he plans to issue air quality criteria under this section.

(2) The Administrator shall issue air quality criteria for an air pollutant within 12 months after he has included such pollutant in a list under paragraph (1). Air quality criteria for an air pollutant shall accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant in the ambient air, in varying quantities. The criteria for an air pollutant, to the extent practicable, shall include information on--

(A) those variable factors (including atmospheric conditions) which of themselves or in combination with other factors may alter the effects on public health or welfare of such air pollutant;

(B) the types of air pollutants which, when present in the atmosphere, may interact with such pollutant to produce an adverse effect on public health or welfare; and

(C) any known or anticipated adverse effects on welfare.

(b) Issuance by Administrator of information on air pollution control techniques; standing consulting committees for air pollutants; establishment; membership

(1) Simultaneously with the issuance of criteria under subsection (a) of this section, the Administrator shall, after consultation with appropriate advisory committees and Federal departments and agencies, issue to the States and appropriate air pollution control agencies information on air pollution control techniques, which information shall include data relating to the cost of installation and operation, energy requirements, emission reduction benefits, and environmental impact of the emission control technology. Such information shall include such data as are available on available technology and alternative methods of prevention and control of air pollution. Such information shall also include data on alternative fuels, processes, and operating methods which will result in elimination or significant reduction of emissions.

(2) In order to assist in the development of information on pollution control techniques, the Administrator may establish a standing consulting committee for each air pollutant included in a list published pursuant to subsection (a)(1) of this section, which shall be comprised of technically qualified individuals representative of State and local governments, industry, and the academic community. Each such committee shall submit, as appropriate, to the Administrator information related to that required by paragraph (1).

(c) Review, modification, and reissuance of criteria or information

The Administrator shall from time to time review, and, as appropriate, modify, and reissue any criteria or information on control techniques issued pursuant to this section. Not later than six months after August 7, 1977, the Administrator shall revise and reissue criteria relating to concentrations of NO₂ over such period (not more than three hours) as he deems appropriate. Such criteria shall include a discussion of nitric and nitrous acids, nitrites, nitrates, nitrosamines, and other carcinogenic and potentially carcinogenic derivatives of oxides of nitrogen.

(d) Publication in Federal Register; availability of copies for general public

The issuance of air quality criteria and information on air pollution control techniques shall be announced in the Federal Register and copies shall be made available to the general public.

(e) Transportation planning and guidelines

The Administrator shall, after consultation with the Secretary of Transportation, and after providing public notice and opportunity for comment, and with State and local officials, within nine months after November 15, 1990, and periodically thereafter as necessary to maintain a continuous transportation-air quality planning process, update the June 1978 Transportation-Air Quality Planning Guidelines and publish guidance on the development and implementation of transportation and other measures necessary to demonstrate and maintain attainment of national ambient air quality standards. Such guidelines shall include information on--

(1) methods to identify and evaluate alternative planning and control activities;

(2) methods of reviewing plans on a regular basis as conditions change or new information is presented;

(3) identification of funds and other resources necessary to implement the plan, including interagency agreements on providing such funds and resources;

(4) methods to assure participation by the public in all phases of the planning process; and

(5) such other methods as the Administrator determines necessary to carry out a continuous planning process.

(f) Information regarding processes, procedures, and methods to reduce or control pollutants in transportation; reduction of mobile source related pollutants; reduction of impact on public health

(1) The Administrator shall publish and make available to appropriate Federal, State, and local environmental and transportation agencies not later than one year after November 15, 1990, and from time to time thereafter--

(A) information prepared, as appropriate, in consultation with the Secretary of Transportation, and after providing public notice and opportunity for comment, regarding the formulation and emission reduction potential of transportation control measures related to criteria pollutants and their precursors, including, but not limited to--

(i) programs for improved public transit;

(ii) restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or high occupancy vehicles;

(iii) employer-based transportation management plans, including incentives;

(iv) trip-reduction ordinances;

(v) traffic flow improvement programs that achieve emission reductions;

(vi) fringe and transportation corridor parking facilities serving multiple occupancy vehicle programs or transit service;

(vii) programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration particularly during periods of peak use;

(viii) programs for the provision of all forms of high-occupancy, shared-ride services;

(ix) programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;

(x) programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;

(xi) programs to control extended idling of vehicles;

(xii) programs to reduce motor vehicle emissions, consistent with subchapter II of this chapter, which are caused by extreme cold start conditions;

(xiii) employer-sponsored programs to permit flexible work schedules;

(xiv) programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;

(xv) programs for new construction and major reconstructions of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation when economically feasible and in the public interest. For purposes of this clause, the Administrator shall also consult with the Secretary of the Interior; and

(xvi) program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks. ¹

(B) information on additional methods or strategies that will contribute to the reduction of mobile source related pollutants during periods in which any primary ambient air quality standard will be exceeded and during episodes for which an air pollution alert, warning, or emergency has been declared;

(C) information on other measures which may be employed to reduce the impact on public health or protect the health of sensitive or susceptible individuals or groups; and

(D) information on the extent to which any process, procedure, or method to reduce or control such air pollutant may cause an increase in the emissions or formation of any other pollutant.

(2) In publishing such information the Administrator shall also include an assessment of--

(A) the relative effectiveness of such processes, procedures, and methods;

(B) the potential effect of such processes, procedures, and methods on transportation systems and the provision of transportation services; and

(C) the environmental, energy, and economic impact of such processes, procedures, and methods.

(g) Assessment of risks to ecosystems

The Administrator may assess the risks to ecosystems from exposure to criteria air pollutants (as identified by the Administrator in the Administrator's sole discretion).

(h) RACT/BACT/LAER clearinghouse

The Administrator shall make information regarding emission control technology available to the States and to the general public through a central database. Such information shall include all control technology information received pursuant to State plan provisions requiring permits for sources, including operating permits for existing sources.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 108, as added [Pub.L. 91-604](#), § 4(a), Dec. 31, 1970, 84 Stat. 1678; amended [Pub.L. 95-95](#), Title I, §§ 104, 105, Title IV, § 401(a), Aug. 7, 1977, 91 Stat. 689, 790; [Pub.L. 101-549](#), Title I, §§ 108(a) to (c), (o), 111, Nov. 15, 1990, 104 Stat. 2465, 2466, 2469, 2470; [Pub.L. 105-362](#), Title XV, § 1501(b), Nov. 10, 1998, 112 Stat. 3294.)

[Notes of Decisions \(15\)](#)

Footnotes

¹ So in original. The period probably should be a semicolon.

42 U.S.C.A. § 7408, 42 USCA § 7408

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part A. Air Quality and Emissions Limitations (Refs & Annos)

42 U.S.C.A. § 7409

§ 7409. National primary and secondary ambient air quality standards

Currentness

(a) Promulgation

(1) The Administrator--

(A) within 30 days after December 31, 1970, shall publish proposed regulations prescribing a national primary ambient air quality standard and a national secondary ambient air quality standard for each air pollutant for which air quality criteria have been issued prior to such date; and

(B) after a reasonable time for interested persons to submit written comments thereon (but no later than 90 days after the initial publication of such proposed standards) shall by regulation promulgate such proposed national primary and secondary ambient air quality standards with such modifications as he deems appropriate.

(2) With respect to any air pollutant for which air quality criteria are issued after December 31, 1970, the Administrator shall publish, simultaneously with the issuance of such criteria and information, proposed national primary and secondary ambient air quality standards for any such pollutant. The procedure provided for in paragraph (1)(B) of this subsection shall apply to the promulgation of such standards.

(b) Protection of public health and welfare

(1) National primary ambient air quality standards, prescribed under subsection (a) of this section shall be ambient air quality standards the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health. Such primary standards may be revised in the same manner as promulgated.

(2) Any national secondary ambient air quality standard prescribed under subsection (a) of this section shall specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air. Such secondary standards may be revised in the same manner as promulgated.

(c) National primary ambient air quality standard for nitrogen dioxide

The Administrator shall, not later than one year after August 7, 1977, promulgate a national primary ambient air quality standard for NO₂ concentrations over a period of not more than 3 hours unless, based on the criteria issued under [section 7408\(c\)](#) of this title, he finds that there is no significant evidence that such a standard for such a period is requisite to protect public health.

(d) Review and revision of criteria and standards; independent scientific review committee; appointment; advisory functions

(1) Not later than December 31, 1980, and at five-year intervals thereafter, the Administrator shall complete a thorough review of the criteria published under [section 7408](#) of this title and the national ambient air quality standards promulgated under this section and shall make such revisions in such criteria and standards and promulgate such new standards as may be appropriate in accordance with [section 7408](#) of this title and subsection (b) of this section. The Administrator may review and revise criteria or promulgate new standards earlier or more frequently than required under this paragraph.

(2)(A) The Administrator shall appoint an independent scientific review committee composed of seven members including at least one member of the National Academy of Sciences, one physician, and one person representing State air pollution control agencies.

(B) Not later than January 1, 1980, and at five-year intervals thereafter, the committee referred to in subparagraph (A) shall complete a review of the criteria published under [section 7408](#) of this title and the national primary and secondary ambient air quality standards promulgated under this section and shall recommend to the Administrator any new national ambient air quality standards and revisions of existing criteria and standards as may be appropriate under [section 7408](#) of this title and subsection (b) of this section.

(C) Such committee shall also (i) advise the Administrator of areas in which additional knowledge is required to appraise the adequacy and basis of existing, new, or revised national ambient air quality standards, (ii) describe the research efforts necessary to provide the required information, (iii) advise the Administrator on the relative contribution to air pollution concentrations of natural as well as anthropogenic activity, and (iv) advise the Administrator of any adverse public health, welfare, social, economic, or energy effects which may result from various strategies for attainment and maintenance of such national ambient air quality standards.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 109, as added [Pub.L. 91-604](#), § 4(a), Dec. 31, 1970, 84 Stat. 1679; amended [Pub.L. 95-95](#), Title I, § 106, Aug. 7, 1977, 91 Stat. 691.)

[Notes of Decisions \(84\)](#)

42 U.S.C.A. § 7409, 42 USCA § 7409

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part A. Air Quality and Emissions Limitations (Refs & Annos)

42 U.S.C.A. § 7410

§ 7410. State implementation plans for national primary and secondary ambient air quality standards

Currentness

(a) Adoption of plan by State; submission to Administrator; content of plan; revision; new sources; indirect source review program; supplemental or intermittent control systems

(1) Each State shall, after reasonable notice and public hearings, adopt and submit to the Administrator, within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national primary ambient air quality standard (or any revision thereof) under [section 7409](#) of this title for any air pollutant, a plan which provides for implementation, maintenance, and enforcement of such primary standard in each air quality control region (or portion thereof) within such State. In addition, such State shall adopt and submit to the Administrator (either as a part of a plan submitted under the preceding sentence or separately) within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national ambient air quality secondary standard (or revision thereof), a plan which provides for implementation, maintenance, and enforcement of such secondary standard in each air quality control region (or portion thereof) within such State. Unless a separate public hearing is provided, each State shall consider its plan implementing such secondary standard at the hearing required by the first sentence of this paragraph.

(2) Each implementation plan submitted by a State under this chapter shall be adopted by the State after reasonable notice and public hearing. Each such plan shall--

(A) include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of this chapter;

(B) provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to--

(i) monitor, compile, and analyze data on ambient air quality, and

(ii) upon request, make such data available to the Administrator;

(C) include a program to provide for the enforcement of the measures described in subparagraph (A), and regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that national ambient air quality standards are achieved, including a permit program as required in parts C and D of this subchapter;

(D) contain adequate provisions--

(i) prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will--

(I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard, or

(II) interfere with measures required to be included in the applicable implementation plan for any other State under part C of this subchapter to prevent significant deterioration of air quality or to protect visibility,

(ii) insuring compliance with the applicable requirements of [sections 7426](#) and [7415](#) of this title (relating to interstate and international pollution abatement);

(E) provide (i) necessary assurances that the State (or, except where the Administrator deems inappropriate, the general purpose local government or governments, or a regional agency designated by the State or general purpose local governments for such purpose) will have adequate personnel, funding, and authority under State (and, as appropriate, local) law to carry out such implementation plan (and is not prohibited by any provision of Federal or State law from carrying out such implementation plan or portion thereof), (ii) requirements that the State comply with the requirements respecting State boards under [section 7428](#) of this title, and (iii) necessary assurances that, where the State has relied on a local or regional government, agency, or instrumentality for the implementation of any plan provision, the State has responsibility for ensuring adequate implementation of such plan provision;

(F) require, as may be prescribed by the Administrator--

(i) the installation, maintenance, and replacement of equipment, and the implementation of other necessary steps, by owners or operators of stationary sources to monitor emissions from such sources,

(ii) periodic reports on the nature and amounts of emissions and emissions-related data from such sources, and

(iii) correlation of such reports by the State agency with any emission limitations or standards established pursuant to this chapter, which reports shall be available at reasonable times for public inspection;

(G) provide for authority comparable to that in [section 7603](#) of this title and adequate contingency plans to implement such authority;

(H) provide for revision of such plan--

(i) from time to time as may be necessary to take account of revisions of such national primary or secondary ambient air quality standard or the availability of improved or more expeditious methods of attaining such standard, and

(ii) except as provided in paragraph (3)(C), whenever the Administrator finds on the basis of information available to the Administrator that the plan is substantially inadequate to attain the national ambient air quality standard which it implements or to otherwise comply with any additional requirements established under this chapter;

(I) in the case of a plan or plan revision for an area designated as a nonattainment area, meet the applicable requirements of part D of this subchapter (relating to nonattainment areas);

(J) meet the applicable requirements of [section 7421](#) of this title (relating to consultation), [section 7427](#) of this title (relating to public notification), and part C of this subchapter (relating to prevention of significant deterioration of air quality and visibility protection);

(K) provide for--

(i) the performance of such air quality modeling as the Administrator may prescribe for the purpose of predicting the effect on ambient air quality of any emissions of any air pollutant for which the Administrator has established a national ambient air quality standard, and

(ii) the submission, upon request, of data related to such air quality modeling to the Administrator;

(L) require the owner or operator of each major stationary source to pay to the permitting authority, as a condition of any permit required under this chapter, a fee sufficient to cover--

(i) the reasonable costs of reviewing and acting upon any application for such a permit, and

(ii) if the owner or operator receives a permit for such source, the reasonable costs of implementing and enforcing the terms and conditions of any such permit (not including any court costs or other costs associated with any enforcement action),

until such fee requirement is superseded with respect to such sources by the Administrator's approval of a fee program under subchapter V of this chapter; and

(M) provide for consultation and participation by local political subdivisions affected by the plan.

(3)(A) Repealed. [Pub.L. 101-549, Title I, § 101\(d\)\(1\)](#), Nov. 15, 1990, 104 Stat. 2409

(B) As soon as practicable, the Administrator shall, consistent with the purposes of this chapter and the Energy Supply and Environmental Coordination Act of 1974 [[15 U.S.C.A. § 791 et seq.](#)], review each State's applicable implementation

plans and report to the State on whether such plans can be revised in relation to fuel burning stationary sources (or persons supplying fuel to such sources) without interfering with the attainment and maintenance of any national ambient air quality standard within the period permitted in this section. If the Administrator determines that any such plan can be revised, he shall notify the State that a plan revision may be submitted by the State. Any plan revision which is submitted by the State shall, after public notice and opportunity for public hearing, be approved by the Administrator if the revision relates only to fuel burning stationary sources (or persons supplying fuel to such sources), and the plan as revised complies with paragraph (2) of this subsection. The Administrator shall approve or disapprove any revision no later than three months after its submission.

(C) Neither the State, in the case of a plan (or portion thereof) approved under this subsection, nor the Administrator, in the case of a plan (or portion thereof) promulgated under subsection (c) of this section, shall be required to revise an applicable implementation plan because one or more exemptions under [section 7418](#) of this title (relating to Federal facilities), enforcement orders under [section 7413\(d\)](#) of this title, suspensions under subsection (f) or (g) of this section (relating to temporary energy or economic authority), orders under [section 7419](#) of this title (relating to primary nonferrous smelters), or extensions of compliance in decrees entered under [section 7413\(e\)](#) of this title (relating to iron- and steel-producing operations) have been granted, if such plan would have met the requirements of this section if no such exemptions, orders, or extensions had been granted.

(4) Repealed. [Pub.L. 101-549, Title I, § 101\(d\)\(2\)](#), Nov. 15, 1990, 104 Stat. 2409

(5)(A)(i) Any State may include in a State implementation plan, but the Administrator may not require as a condition of approval of such plan under this section, any indirect source review program. The Administrator may approve and enforce, as part of an applicable implementation plan, an indirect source review program which the State chooses to adopt and submit as part of its plan.

(ii) Except as provided in subparagraph (B), no plan promulgated by the Administrator shall include any indirect source review program for any air quality control region, or portion thereof.

(iii) Any State may revise an applicable implementation plan approved under this subsection to suspend or revoke any such program included in such plan, provided that such plan meets the requirements of this section.

(B) The Administrator shall have the authority to promulgate, implement and enforce regulations under subsection (c) of this section respecting indirect source review programs which apply only to federally assisted highways, airports, and other major federally assisted indirect sources and federally owned or operated indirect sources.

(C) For purposes of this paragraph, the term “indirect source” means a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution. Such term includes parking lots, parking garages, and other facilities subject to any measure for management of parking supply (within the meaning of subsection (c)(2)(D)(ii) of this section), including regulation of existing off-street parking but such term does not include new or existing on-street parking. Direct emissions sources or facilities at, within, or associated with, any indirect source shall not be deemed indirect sources for the purpose of this paragraph.

(D) For purposes of this paragraph the term “indirect source review program” means the facility-by-facility review of indirect sources of air pollution, including such measures as are necessary to assure, or assist in assuring, that a new or modified indirect source will not attract mobile sources of air pollution, the emissions from which would cause or contribute to air pollution concentrations--

(i) exceeding any national primary ambient air quality standard for a mobile source-related air pollutant after the primary standard attainment date, or

(ii) preventing maintenance of any such standard after such date.

(E) For purposes of this paragraph and paragraph (2)(B), the term “transportation control measure” does not include any measure which is an “indirect source review program”.

(6) No State plan shall be treated as meeting the requirements of this section unless such plan provides that in the case of any source which uses a supplemental, or intermittent control system for purposes of meeting the requirements of an order under [section 7413\(d\)](#) of this title or [section 7419](#) of this title (relating to primary nonferrous smelter orders), the owner or operator of such source may not temporarily reduce the pay of any employee by reason of the use of such supplemental or intermittent or other dispersion dependent control system.

(b) Extension of period for submission of plans

The Administrator may, wherever he determines necessary, extend the period for submission of any plan or portion thereof which implements a national secondary ambient air quality standard for a period not to exceed 18 months from the date otherwise required for submission of such plan.

(c) Preparation and publication by Administrator of proposed regulations setting forth implementation plan; transportation regulations study and report; parking surcharge; suspension authority; plan implementation

(1) The Administrator shall promulgate a Federal implementation plan at any time within 2 years after the Administrator--

(A) finds that a State has failed to make a required submission or finds that the plan or plan revision submitted by the State does not satisfy the minimum criteria established under subsection (k)(1)(A) of this section, or

(B) disapproves a State implementation plan submission in whole or in part,

unless the State corrects the deficiency, and the Administrator approves the plan or plan revision, before the Administrator promulgates such Federal implementation plan.

(2)(A) Repealed. [Pub.L. 101-549, Title I, § 101\(d\)\(3\)\(A\)](#), Nov. 15, 1990, 104 Stat. 2409

(B) No parking surcharge regulation may be required by the Administrator under paragraph (1) of this subsection as a part of an applicable implementation plan. All parking surcharge regulations previously required by the Administrator shall be void upon June 22, 1974. This subparagraph shall not prevent the Administrator from approving parking surcharges if they are adopted and submitted by a State as part of an applicable implementation plan. The Administrator may not condition approval of any implementation plan submitted by a State on such plan's including a parking surcharge regulation.

(C) Repealed. [Pub.L. 101-549, Title I, § 101\(d\)\(3\)\(B\)](#), Nov. 15, 1990, 104 Stat. 2409

(D) For purposes of this paragraph--

(i) The term “parking surcharge regulation” means a regulation imposing or requiring the imposition of any tax, surcharge, fee, or other charge on parking spaces, or any other area used for the temporary storage of motor vehicles.

(ii) The term “management of parking supply” shall include any requirement providing that any new facility containing a given number of parking spaces shall receive a permit or other prior approval, issuance of which is to be conditioned on air quality considerations.

(iii) The term “preferential bus/carpool lane” shall include any requirement for the setting aside of one or more lanes of a street or highway on a permanent or temporary basis for the exclusive use of buses or carpools, or both.

(E) No standard, plan, or requirement, relating to management of parking supply or preferential bus/carpool lanes shall be promulgated after June 22, 1974, by the Administrator pursuant to this section, unless such promulgation has been subjected to at least one public hearing which has been held in the area affected and for which reasonable notice has been given in such area. If substantial changes are made following public hearings, one or more additional hearings shall be held in such area after such notice.

(3) Upon application of the chief executive officer of any general purpose unit of local government, if the Administrator determines that such unit has adequate authority under State or local law, the Administrator may delegate to such unit the authority to implement and enforce within the jurisdiction of such unit any part of a plan promulgated under this subsection. Nothing in this paragraph shall prevent the Administrator from implementing or enforcing any applicable provision of a plan promulgated under this subsection.

(4) Repealed. [Pub.L. 101-549, Title I, § 101\(d\)\(3\)\(C\)](#), Nov. 15, 1990, 104 Stat. 2409

(5)(A) Any measure in an applicable implementation plan which requires a toll or other charge for the use of a bridge located entirely within one city shall be eliminated from such plan by the Administrator upon application by the Governor of the State, which application shall include a certification by the Governor that he will revise such plan in accordance with subparagraph **(B)**.

(B) In the case of any applicable implementation plan with respect to which a measure has been eliminated under subparagraph (A), such plan shall, not later than one year after August 7, 1977, be revised to include comprehensive measures to:

(i) establish, expand, or improve public transportation measures to meet basic transportation needs, as expeditiously as is practicable; and

(ii) implement transportation control measures necessary to attain and maintain national ambient air quality standards,

and such revised plan shall, for the purpose of implementing such comprehensive public transportation measures, include requirements to use (insofar as is necessary) Federal grants, State or local funds, or any combination of such grants and funds as may be consistent with the terms of the legislation providing such grants and funds. Such measures shall, as a substitute for the tolls or charges eliminated under subparagraph (A), provide for emissions reductions equivalent to the reductions which may reasonably be expected to be achieved through the use of the tolls or charges eliminated.

(C) Any revision of an implementation plan for purposes of meeting the requirements of subparagraph (B) shall be submitted in coordination with any plan revision required under part D of this subchapter.

(d), (e) Repealed. Pub.L. 101-549, Title I, § 101(d)(4), (5), Nov. 15, 1990, 104 Stat. 2409

(f) National or regional energy emergencies; determination by President

(1) Upon application by the owner or operator of a fuel burning stationary source, and after notice and opportunity for public hearing, the Governor of the State in which such source is located may petition the President to determine that a national or regional energy emergency exists of such severity that--

(A) a temporary suspension of any part of the applicable implementation plan or of any requirement under [section 7651j](#) of this title (concerning excess emissions penalties or offsets) may be necessary, and

(B) other means of responding to the energy emergency may be inadequate.

Such determination shall not be delegable by the President to any other person. If the President determines that a national or regional energy emergency of such severity exists, a temporary emergency suspension of any part of an applicable implementation plan or of any requirement under [section 7651j](#) of this title (concerning excess emissions penalties or offsets) adopted by the State may be issued by the Governor of any State covered by the President's determination under the condition specified in paragraph (2) and may take effect immediately.

(2) A temporary emergency suspension under this subsection shall be issued to a source only if the Governor of such State finds that--

(A) there exists in the vicinity of such source a temporary energy emergency involving high levels of unemployment or loss of necessary energy supplies for residential dwellings; and

(B) such unemployment or loss can be totally or partially alleviated by such emergency suspension.

Not more than one such suspension may be issued for any source on the basis of the same set of circumstances or on the basis of the same emergency.

(3) A temporary emergency suspension issued by a Governor under this subsection shall remain in effect for a maximum of four months or such lesser period as may be specified in a disapproval order of the Administrator, if any. The Administrator may disapprove such suspension if he determines that it does not meet the requirements of paragraph (2).

(4) This subsection shall not apply in the case of a plan provision or requirement promulgated by the Administrator under subsection (c) of this section, but in any such case the President may grant a temporary emergency suspension for a four month period of any such provision or requirement if he makes the determinations and findings specified in paragraphs (1) and (2).

(5) The Governor may include in any temporary emergency suspension issued under this subsection a provision delaying for a period identical to the period of such suspension any compliance schedule (or increment of progress) to which such source is subject under [section 1857c-10](#) of this title, as in effect before August 7, 1977, or [section 7413\(d\)](#) of this title, upon a finding that such source is unable to comply with such schedule (or increment) solely because of the conditions on the basis of which a suspension was issued under this subsection.

(g) Governor's authority to issue temporary emergency suspensions

(1) In the case of any State which has adopted and submitted to the Administrator a proposed plan revision which the State determines--

(A) meets the requirements of this section, and

(B) is necessary (i) to prevent the closing for one year or more of any source of air pollution, and (ii) to prevent substantial increases in unemployment which would result from such closing, and

which the Administrator has not approved or disapproved under this section within 12 months of submission of the proposed plan revision, the Governor may issue a temporary emergency suspension of the part of the applicable implementation plan for such State which is proposed to be revised with respect to such source. The determination under subparagraph (B) may not be made with respect to a source which would close without regard to whether or not the proposed plan revision is approved.

(2) A temporary emergency suspension issued by a Governor under this subsection shall remain in effect for a maximum of four months or such lesser period as may be specified in a disapproval order of the Administrator. The Administrator may disapprove such suspension if he determines that it does not meet the requirements of this subsection.

(3) The Governor may include in any temporary emergency suspension issued under this subsection a provision delaying for a period identical to the period of such suspension any compliance schedule (or increment of progress) to which such source is subject under [section 1857c-10](#) of this title as in effect before August 7, 1977, or under [section 7413\(d\)](#) of this title upon a finding that such source is unable to comply with such schedule (or increment) solely because of the conditions on the basis of which a suspension was issued under this subsection.

(h) Publication of comprehensive document for each State setting forth requirements of applicable implementation plan

(1) Not later than 5 years after November 15, 1990, and every 3 years thereafter, the Administrator shall assemble and publish a comprehensive document for each State setting forth all requirements of the applicable implementation plan for such State and shall publish notice in the Federal Register of the availability of such documents.

(2) The Administrator may promulgate such regulations as may be reasonably necessary to carry out the purpose of this subsection.

(i) Modification of requirements prohibited

Except for a primary nonferrous smelter order under [section 7419](#) of this title, a suspension under subsection (f) or (g) of this section (relating to emergency suspensions), an exemption under [section 7418](#) of this title (relating to certain Federal facilities), an order under [section 7413\(d\)](#) of this title (relating to compliance orders), a plan promulgation under subsection (c) of this section, or a plan revision under subsection (a)(3) of this section, no order, suspension, plan revision, or other action modifying any requirement of an applicable implementation plan may be taken with respect to any stationary source by the State or by the Administrator.

(j) Technological systems of continuous emission reduction on new or modified stationary sources; compliance with performance standards

As a condition for issuance of any permit required under this subchapter, the owner or operator of each new or modified stationary source which is required to obtain such a permit must show to the satisfaction of the permitting authority that the technological system of continuous emission reduction which is to be used at such source will enable it to comply with the standards of performance which are to apply to such source and that the construction or modification and operation of such source will be in compliance with all other requirements of this chapter.

(k) Environmental Protection Agency action on plan submissions

(1) Completeness of plan submissions

(A) Completeness criteria

Within 9 months after November 15, 1990, the Administrator shall promulgate minimum criteria that any plan submission must meet before the Administrator is required to act on such submission under this subsection. The

criteria shall be limited to the information necessary to enable the Administrator to determine whether the plan submission complies with the provisions of this chapter.

(B) Completeness finding

Within 60 days of the Administrator's receipt of a plan or plan revision, but no later than 6 months after the date, if any, by which a State is required to submit the plan or revision, the Administrator shall determine whether the minimum criteria established pursuant to subparagraph (A) have been met. Any plan or plan revision that a State submits to the Administrator, and that has not been determined by the Administrator (by the date 6 months after receipt of the submission) to have failed to meet the minimum criteria established pursuant to subparagraph (A), shall on that date be deemed by operation of law to meet such minimum criteria.

(C) Effect of finding of incompleteness

Where the Administrator determines that a plan submission (or part thereof) does not meet the minimum criteria established pursuant to subparagraph (A), the State shall be treated as not having made the submission (or, in the Administrator's discretion, part thereof).

(2) Deadline for action

Within 12 months of a determination by the Administrator (or a determination deemed by operation of law) under paragraph (1) that a State has submitted a plan or plan revision (or, in the Administrator's discretion, part thereof) that meets the minimum criteria established pursuant to paragraph (1), if applicable (or, if those criteria are not applicable, within 12 months of submission of the plan or revision), the Administrator shall act on the submission in accordance with paragraph (3).

(3) Full and partial approval and disapproval

In the case of any submittal on which the Administrator is required to act under paragraph (2), the Administrator shall approve such submittal as a whole if it meets all of the applicable requirements of this chapter. If a portion of the plan revision meets all the applicable requirements of this chapter, the Administrator may approve the plan revision in part and disapprove the plan revision in part. The plan revision shall not be treated as meeting the requirements of this chapter until the Administrator approves the entire plan revision as complying with the applicable requirements of this chapter.

(4) Conditional approval

The Administrator may approve a plan revision based on a commitment of the State to adopt specific enforceable measures by a date certain, but not later than 1 year after the date of approval of the plan revision. Any such conditional approval shall be treated as a disapproval if the State fails to comply with such commitment.

(5) Calls for plan revisions

Whenever the Administrator finds that the applicable implementation plan for any area is substantially inadequate to attain or maintain the relevant national ambient air quality standard, to mitigate adequately the interstate pollutant

transport described in [section 7506a](#) of this title or [section 7511c](#) of this title, or to otherwise comply with any requirement of this chapter, the Administrator shall require the State to revise the plan as necessary to correct such inadequacies. The Administrator shall notify the State of the inadequacies, and may establish reasonable deadlines (not to exceed 18 months after the date of such notice) for the submission of such plan revisions. Such findings and notice shall be public. Any finding under this paragraph shall, to the extent the Administrator deems appropriate, subject the State to the requirements of this chapter to which the State was subject when it developed and submitted the plan for which such finding was made, except that the Administrator may adjust any dates applicable under such requirements as appropriate (except that the Administrator may not adjust any attainment date prescribed under part D of this subchapter, unless such date has elapsed).

(6) Corrections

Whenever the Administrator determines that the Administrator's action approving, disapproving, or promulgating any plan or plan revision (or part thereof), area designation, redesignation, classification, or reclassification was in error, the Administrator may in the same manner as the approval, disapproval, or promulgation revise such action as appropriate without requiring any further submission from the State. Such determination and the basis thereof shall be provided to the State and public.

(l) Plan revisions

Each revision to an implementation plan submitted by a State under this chapter shall be adopted by such State after reasonable notice and public hearing. The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress (as defined in [section 7501](#) of this title), or any other applicable requirement of this chapter.

(m) Sanctions

The Administrator may apply any of the sanctions listed in [section 7509\(b\)](#) of this title at any time (or at any time after) the Administrator makes a finding, disapproval, or determination under paragraphs (1) through (4), respectively, of [section 7509\(a\)](#) of this title in relation to any plan or plan item (as that term is defined by the Administrator) required under this chapter, with respect to any portion of the State the Administrator determines reasonable and appropriate, for the purpose of ensuring that the requirements of this chapter relating to such plan or plan item are met. The Administrator shall, by rule, establish criteria for exercising his authority under the previous sentence with respect to any deficiency referred to in [section 7509\(a\)](#) of this title to ensure that, during the 24-month period following the finding, disapproval, or determination referred to in [section 7509\(a\)](#) of this title, such sanctions are not applied on a statewide basis where one or more political subdivisions covered by the applicable implementation plan are principally responsible for such deficiency.

(n) Savings clauses

(1) Existing plan provisions

Any provision of any applicable implementation plan that was approved or promulgated by the Administrator pursuant to this section as in effect before November 15, 1990, shall remain in effect as part of such applicable implementation plan, except to the extent that a revision to such provision is approved or promulgated by the Administrator pursuant to this chapter.

(2) Attainment dates

For any area not designated nonattainment, any plan or plan revision submitted or required to be submitted by a State--

(A) in response to the promulgation or revision of a national primary ambient air quality standard in effect on November 15, 1990, or

(B) in response to a finding of substantial inadequacy under subsection (a)(2) of this section (as in effect immediately before November 15, 1990),

shall provide for attainment of the national primary ambient air quality standards within 3 years of November 15, 1990, or within 5 years of issuance of such finding of substantial inadequacy, whichever is later.

(3) Retention of construction moratorium in certain areas

In the case of an area to which, immediately before November 15, 1990, the prohibition on construction or modification of major stationary sources prescribed in subsection (a)(2)(I) of this section (as in effect immediately before November 15, 1990) applied by virtue of a finding of the Administrator that the State containing such area had not submitted an implementation plan meeting the requirements of [section 7502\(b\)\(6\)](#) of this title (relating to establishment of a permit program) (as in effect immediately before November 15, 1990) or 7502(a)(1) of this title (to the extent such requirements relate to provision for attainment of the primary national ambient air quality standard for sulfur oxides by December 31, 1982) as in effect immediately before November 15, 1990, no major stationary source of the relevant air pollutant or pollutants shall be constructed or modified in such area until the Administrator finds that the plan for such area meets the applicable requirements of [section 7502\(c\)\(5\)](#) of this title (relating to permit programs) or subpart 5 of part D of this subchapter (relating to attainment of the primary national ambient air quality standard for sulfur dioxide), respectively.

(o) Indian tribes

If an Indian tribe submits an implementation plan to the Administrator pursuant to [section 7601\(d\)](#) of this title, the plan shall be reviewed in accordance with the provisions for review set forth in this section for State plans, except as otherwise provided by regulation promulgated pursuant to [section 7601\(d\)\(2\)](#) of this title. When such plan becomes effective in accordance with the regulations promulgated under [section 7601\(d\)](#) of this title, the plan shall become applicable to all areas (except as expressly provided otherwise in the plan) located within the exterior boundaries of the reservation, notwithstanding the issuance of any patent and including rights-of-way running through the reservation.

(p) Reports

Any State shall submit, according to such schedule as the Administrator may prescribe, such reports as the Administrator may require relating to emission reductions, vehicle miles traveled, congestion levels, and any other information the Administrator may deem necessary to assess the development¹ effectiveness, need for revision, or implementation of any plan or plan revision required under this chapter.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 110, as added [Pub.L. 91-604](#), § 4(a), Dec. 31, 1970, 84 Stat. 1680; amended [Pub.L. 93-319](#), § 4, June 22, 1974, 88 Stat. 256; S.Res. 4, Feb. 4, 1977; [Pub.L. 95-95, Title I, §§ 107, 108](#), Aug. 7, 1977, 91 Stat. 691, 693; [Pub.L. 95-190](#), § 14(a)(1)-(6), Nov. 16, 1977, 91 Stat. 1399; [Pub.L. 97-23](#), § 3, July 17, 1981, 95 Stat. 142; [Pub.L. 101-549, Title I, §§ 101\(b\)-\(d\), 102\(h\), 107\(c\), 108\(d\)](#), Title IV, § 412, Nov. 15, 1990, 104 Stat. 2404-2408, 2422, 2464, 2466, 2634.)

Notes of Decisions (366)

Footnotes

¹ So in original. Probably should be followed by a comma.

42 U.S.C.A. § 7410, 42 USCA § 7410

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

End of Document

© 2018 Thomson Reuters. No claim to original U.S. Government Works.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part A. Air Quality and Emissions Limitations (Refs & Annos)

42 U.S.C.A. § 7411

§ 7411. Standards of performance for new stationary sources

Currentness

(a) Definitions

For purposes of this section:

(1) The term “standard of performance” means a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.

(2) The term “new source” means any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source.

(3) The term “stationary source” means any building, structure, facility, or installation which emits or may emit any air pollutant. Nothing in subchapter II of this chapter relating to nonroad engines shall be construed to apply to stationary internal combustion engines.

(4) The term “modification” means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

(5) The term “owner or operator” means any person who owns, leases, operates, controls, or supervises a stationary source.

(6) The term “existing source” means any stationary source other than a new source.

(7) The term “technological system of continuous emission reduction” means--

(A) a technological process for production or operation by any source which is inherently low-polluting or nonpolluting, or

(B) a technological system for continuous reduction of the pollution generated by a source before such pollution is emitted into the ambient air, including precombustion cleaning or treatment of fuels.

(8) A conversion to coal (A) by reason of an order under section 2(a) of the Energy Supply and Environmental Coordination Act of 1974 [15 U.S.C.A. § 792(a)] or any amendment thereto, or any subsequent enactment which supersedes such Act [15 U.S.C.A. § 791 et seq.], or (B) which qualifies under section 7413(d)(5)(A)(ii) of this title, shall not be deemed to be a modification for purposes of paragraphs (2) and (4) of this subsection.

(b) List of categories of stationary sources; standards of performance; information on pollution control techniques; sources owned or operated by United States; particular systems; revised standards

(1)(A) The Administrator shall, within 90 days after December 31, 1970, publish (and from time to time thereafter shall revise) a list of categories of stationary sources. He shall include a category of sources in such list if in his judgment it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.

(B) Within one year after the inclusion of a category of stationary sources in a list under subparagraph (A), the Administrator shall publish proposed regulations, establishing Federal standards of performance for new sources within such category. The Administrator shall afford interested persons an opportunity for written comment on such proposed regulations. After considering such comments, he shall promulgate, within one year after such publication, such standards with such modifications as he deems appropriate. The Administrator shall, at least every 8 years, review and, if appropriate, revise such standards following the procedure required by this subsection for promulgation of such standards. Notwithstanding the requirements of the previous sentence, the Administrator need not review any such standard if the Administrator determines that such review is not appropriate in light of readily available information on the efficacy of such standard. Standards of performance or revisions thereof shall become effective upon promulgation. When implementation and enforcement of any requirement of this chapter indicate that emission limitations and percent reductions beyond those required by the standards promulgated under this section are achieved in practice, the Administrator shall, when revising standards promulgated under this section, consider the emission limitations and percent reductions achieved in practice.

(2) The Administrator may distinguish among classes, types, and sizes within categories of new sources for the purpose of establishing such standards.

(3) The Administrator shall, from time to time, issue information on pollution control techniques for categories of new sources and air pollutants subject to the provisions of this section.

(4) The provisions of this section shall apply to any new source owned or operated by the United States.

(5) Except as otherwise authorized under subsection (h) of this section, nothing in this section shall be construed to require, or to authorize the Administrator to require, any new or modified source to install and operate any particular technological system of continuous emission reduction to comply with any new source standard of performance.

(6) The revised standards of performance required by enactment of subsection (a)(1)(A)(i) and (ii) of this section shall be promulgated not later than one year after August 7, 1977. Any new or modified fossil fuel fired stationary source which commences construction prior to the date of publication of the proposed revised standards shall not be required to comply with such revised standards.

(c) State implementation and enforcement of standards of performance

(1) Each State may develop and submit to the Administrator a procedure for implementing and enforcing standards of performance for new sources located in such State. If the Administrator finds the State procedure is adequate, he shall delegate to such State any authority he has under this chapter to implement and enforce such standards.

(2) Nothing in this subsection shall prohibit the Administrator from enforcing any applicable standard of performance under this section.

(d) Standards of performance for existing sources; remaining useful life of source

(1) The Administrator shall prescribe regulations which shall establish a procedure similar to that provided by [section 7410](#) of this title under which each State shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant (i) for which air quality criteria have not been issued or which is not included on a list published under [section 7408\(a\)](#) of this title or emitted from a source category which is regulated under [section 7412](#) of this title but (ii) to which a standard of performance under this section would apply if such existing source were a new source, and (B) provides for the implementation and enforcement of such standards of performance. Regulations of the Administrator under this paragraph shall permit the State in applying a standard of performance to any particular source under a plan submitted under this paragraph to take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies.

(2) The Administrator shall have the same authority--

(A) to prescribe a plan for a State in cases where the State fails to submit a satisfactory plan as he would have under [section 7410\(c\)](#) of this title in the case of failure to submit an implementation plan, and

(B) to enforce the provisions of such plan in cases where the State fails to enforce them as he would have under [sections 7413](#) and [7414](#) of this title with respect to an implementation plan.

In promulgating a standard of performance under a plan prescribed under this paragraph, the Administrator shall take into consideration, among other factors, remaining useful lives of the sources in the category of sources to which such standard applies.

(e) Prohibited acts

After the effective date of standards of performance promulgated under this section, it shall be unlawful for any owner or operator of any new source to operate such source in violation of any standard of performance applicable to such source.

(f) New source standards of performance

(1) For those categories of major stationary sources that the Administrator listed under subsection (b)(1)(A) of this section before November 15, 1990, and for which regulations had not been proposed by the Administrator by November 15, 1990, the Administrator shall--

(A) propose regulations establishing standards of performance for at least 25 percent of such categories of sources within 2 years after November 15, 1990;

(B) propose regulations establishing standards of performance for at least 50 percent of such categories of sources within 4 years after November 15, 1990; and

(C) propose regulations for the remaining categories of sources within 6 years after November 15, 1990.

(2) In determining priorities for promulgating standards for categories of major stationary sources for the purpose of paragraph (1), the Administrator shall consider--

(A) the quantity of air pollutant emissions which each such category will emit, or will be designed to emit;

(B) the extent to which each such pollutant may reasonably be anticipated to endanger public health or welfare; and

(C) the mobility and competitive nature of each such category of sources and the consequent need for nationally applicable new source standards of performance.

(3) Before promulgating any regulations under this subsection or listing any category of major stationary sources as required under this subsection, the Administrator shall consult with appropriate representatives of the Governors and of State air pollution control agencies.

(g) Revision of regulations

(1) Upon application by the Governor of a State showing that the Administrator has failed to specify in regulations under subsection (f)(1) of this section any category of major stationary sources required to be specified under such regulations, the Administrator shall revise such regulations to specify any such category.

(2) Upon application of the Governor of a State, showing that any category of stationary sources which is not included in the list under subsection (b)(1)(A) of this section contributes significantly to air pollution which may reasonably be anticipated to endanger public health or welfare (notwithstanding that such category is not a category of major stationary sources), the Administrator shall revise such regulations to specify such category of stationary sources.

(3) Upon application of the Governor of a State showing that the Administrator has failed to apply properly the criteria required to be considered under subsection (f)(2) of this section, the Administrator shall revise the list under subsection (b)(1)(A) of this section to apply properly such criteria.

(4) Upon application of the Governor of a State showing that--

(A) a new, innovative, or improved technology or process which achieves greater continuous emission reduction has been adequately demonstrated for any category of stationary sources, and

(B) as a result of such technology or process, the new source standard of performance in effect under this section for such category no longer reflects the greatest degree of emission limitation achievable through application of the best technological system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impact and energy requirements) has been adequately demonstrated,

the Administrator shall revise such standard of performance for such category accordingly.

(5) Unless later deadlines for action of the Administrator are otherwise prescribed under this section, the Administrator shall, not later than three months following the date of receipt of any application by a Governor of a State, either--

(A) find that such application does not contain the requisite showing and deny such application, or

(B) grant such application and take the action required under this subsection.

(6) Before taking any action required by subsection (f) of this section or by this subsection, the Administrator shall provide notice and opportunity for public hearing.

(h) Design, equipment, work practice, or operational standard; alternative emission limitation

(1) For purposes of this section, if in the judgment of the Administrator, it is not feasible to prescribe or enforce a standard of performance, he may instead promulgate a design, equipment, work practice, or operational standard, or combination thereof, which reflects the best technological system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated. In the event the Administrator promulgates a design or equipment standard under this subsection, he shall include as part of such standard such requirements as will assure the proper operation and maintenance of any such element of design or equipment.

(2) For the purpose of this subsection, the phrase "not feasible to prescribe or enforce a standard of performance" means any situation in which the Administrator determines that (A) a pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of,

such a conveyance would be inconsistent with any Federal, State, or local law, or (B) the application of measurement methodology to a particular class of sources is not practicable due to technological or economic limitations.

(3) If after notice and opportunity for public hearing, any person establishes to the satisfaction of the Administrator that an alternative means of emission limitation will achieve a reduction in emissions of any air pollutant at least equivalent to the reduction in emissions of such air pollutant achieved under the requirements of paragraph (1), the Administrator shall permit the use of such alternative by the source for purposes of compliance with this section with respect to such pollutant.

(4) Any standard promulgated under paragraph (1) shall be promulgated in terms of standard of performance whenever it becomes feasible to promulgate and enforce such standard in such terms.

(5) Any design, equipment, work practice, or operational standard, or any combination thereof, described in this subsection shall be treated as a standard of performance for purposes of the provisions of this chapter (other than the provisions of subsection (a) of this section and this subsection).

(i) Country elevators

Any regulations promulgated by the Administrator under this section applicable to grain elevators shall not apply to country elevators (as defined by the Administrator) which have a storage capacity of less than two million five hundred thousand bushels.

(j) Innovative technological systems of continuous emission reduction

(1)(A) Any person proposing to own or operate a new source may request the Administrator for one or more waivers from the requirements of this section for such source or any portion thereof with respect to any air pollutant to encourage the use of an innovative technological system or systems of continuous emission reduction. The Administrator may, with the consent of the Governor of the State in which the source is to be located, grant a waiver under this paragraph, if the Administrator determines after notice and opportunity for public hearing, that--

(i) the proposed system or systems have not been adequately demonstrated,

(ii) the proposed system or systems will operate effectively and there is a substantial likelihood that such system or systems will achieve greater continuous emission reduction than that required to be achieved under the standards of performance which would otherwise apply, or achieve at least an equivalent reduction at lower cost in terms of energy, economic, or nonair quality environmental impact,

(iii) the owner or operator of the proposed source has demonstrated to the satisfaction of the Administrator that the proposed system will not cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation, function, or malfunction, and

(iv) the granting of such waiver is consistent with the requirements of subparagraph (C).

In making any determination under clause (ii), the Administrator shall take into account any previous failure of such system or systems to operate effectively or to meet any requirement of the new source performance standards. In determining whether an unreasonable risk exists under clause (iii), the Administrator shall consider, among other factors, whether and to what extent the use of the proposed technological system will cause, increase, reduce, or eliminate emissions of any unregulated pollutants; available methods for reducing or eliminating any risk to public health, welfare, or safety which may be associated with the use of such system; and the availability of other technological systems which may be used to conform to standards under this section without causing or contributing to such unreasonable risk. The Administrator may conduct such tests and may require the owner or operator of the proposed source to conduct such tests and provide such information as is necessary to carry out clause (iii) of this subparagraph. Such requirements shall include a requirement for prompt reporting of the emission of any unregulated pollutant from a system if such pollutant was not emitted, or was emitted in significantly lesser amounts without use of such system.

(B) A waiver under this paragraph shall be granted on such terms and conditions as the Administrator determines to be necessary to assure--

(i) emissions from the source will not prevent attainment and maintenance of any national ambient air quality standards, and

(ii) proper functioning of the technological system or systems authorized.

Any such term or condition shall be treated as a standard of performance for the purposes of subsection (e) of this section and [section 7413](#) of this title.

(C) The number of waivers granted under this paragraph with respect to a proposed technological system of continuous emission reduction shall not exceed such number as the Administrator finds necessary to ascertain whether or not such system will achieve the conditions specified in clauses (ii) and (iii) of subparagraph (A).

(D) A waiver under this paragraph shall extend to the sooner of--

(i) the date determined by the Administrator, after consultation with the owner or operator of the source, taking into consideration the design, installation, and capital cost of the technological system or systems being used, or

(ii) the date on which the Administrator determines that such system has failed to--

(I) achieve at least an equivalent continuous emission reduction to that required to be achieved under the standards of performance which would otherwise apply, or

(II) comply with the condition specified in paragraph (1)(A)(iii),

and that such failure cannot be corrected.

(E) In carrying out subparagraph (D)(i), the Administrator shall not permit any waiver for a source or portion thereof to extend beyond the date--

(i) seven years after the date on which any waiver is granted to such source or portion thereof, or

(ii) four years after the date on which such source or portion thereof commences operation,

whichever is earlier.

(F) No waiver under this subsection shall apply to any portion of a source other than the portion on which the innovative technological system or systems of continuous emission reduction is used.

(2)(A) If a waiver under paragraph (1) is terminated under clause (ii) of paragraph (1)(D), the Administrator shall grant an extension of the requirements of this section for such source for such minimum period as may be necessary to comply with the applicable standard of performance under this section. Such period shall not extend beyond the date three years from the time such waiver is terminated.

(B) An extension granted under this paragraph shall set forth emission limits and a compliance schedule containing increments of progress which require compliance with the applicable standards of performance as expeditiously as practicable and include such measures as are necessary and practicable in the interim to minimize emissions. Such schedule shall be treated as a standard of performance for purposes of subsection (e) of this section and [section 7413](#) of this title.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 111, as added [Pub.L. 91-604](#), § 4(a), Dec. 31, 1970, 84 Stat. 1683; amended [Pub.L. 92-157](#), Title III, § 302(f), Nov. 18, 1971, 85 Stat. 464; [Pub.L. 95-95](#), Title I, § 109(a)-(d)(1), (e), (f), Title IV, § 401(b), Aug. 7, 1977, 91 Stat. 697 to 703, 791; [Pub.L. 95-190](#), § 14(a)(7) to (9), Nov. 16, 1977, 91 Stat. 1399; [Pub.L. 95-623](#), § 13(a), Nov. 9, 1978, 92 Stat. 3457; [Pub.L. 101-549](#), Title I, § 108(e) to (g), Title III, § 302(a), (b), Title IV, § 403(a), Nov. 15, 1990, 104 Stat. 2467, 2574, 2631.)

MEMORANDA OF PRESIDENT

PRESIDENTIAL MEMORANDUM

Memorandum of the President of the United States, June 25, 2013, 78 F.R. 39535, relating to power sector carbon pollution standards, was revoked by [Ex. Ord. No. 13783](#), § 3(a)(ii), March 28, 2017, 82 F.R. 16093.

[Notes of Decisions \(120\)](#)

42 U.S.C.A. § 7411, 42 USCA § 7411

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

End of Document

© 2018 Thomson Reuters. No claim to original U.S. Government Works.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part A. Air Quality and Emissions Limitations (Refs & Annos)

42 U.S.C.A. § 7426

§ 7426. Interstate pollution abatement

Currentness

(a) Written notice to all nearby States

Each applicable implementation plan shall--

(1) require each major proposed new (or modified) source--

(A) subject to part C of this subchapter (relating to significant deterioration of air quality) or

(B) which may significantly contribute to levels of air pollution in excess of the national ambient air quality standards in any air quality control region outside the State in which such source intends to locate (or make such modification),

to provide written notice to all nearby States the air pollution levels of which may be affected by such source at least sixty days prior to the date on which commencement of construction is to be permitted by the State providing notice, and

(2) identify all major existing stationary sources which may have the impact described in paragraph (1) with respect to new or modified sources and provide notice to all nearby States of the identity of such sources not later than three months after August 7, 1977.

(b) Petition for finding that major sources emit or would emit prohibited air pollutants

Any State or political subdivision may petition the Administrator for a finding that any major source or group of stationary sources emits or would emit any air pollutant in violation of the prohibition of [section 7410\(a\)\(2\)\(D\)\(ii\)](#) of this title or this section. Within 60 days after receipt of any petition under this subsection and after public hearing, the Administrator shall make such a finding or deny the petition.

(c) Violations; allowable continued operation

Notwithstanding any permit which may have been granted by the State in which the source is located (or intends to locate), it shall be a violation of this section and the applicable implementation plan in such State--

(1) for any major proposed new (or modified) source with respect to which a finding has been made under subsection (b) of this section to be constructed or to operate in violation of the prohibition of [section 7410\(a\)\(2\)\(D\)\(ii\)](#) of this title or this section, or

(2) for any major existing source to operate more than three months after such finding has been made with respect to it.

The Administrator may permit the continued operation of a source referred to in paragraph (2) beyond the expiration of such three-month period if such source complies with such emission limitations and compliance schedules (containing increments of progress) as may be provided by the Administrator to bring about compliance with the requirements contained in [section 7410\(a\)\(2\)\(D\)\(ii\)](#) of this title or this section as expeditiously as practicable, but in no case later than three years after the date of such finding. Nothing in the preceding sentence shall be construed to preclude any such source from being eligible for an enforcement order under [section 7413\(d\)](#) of this title after the expiration of such period during which the Administrator has permitted continuous operation.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 126, as added [Pub.L. 95-95, Title I, § 123](#), Aug. 7, 1977, 91 Stat. 724; amended [Pub.L. 95-190, § 14\(a\)\(39\)](#), Nov. 16, 1977, 91 Stat. 1401; [Pub.L. 101-549, Title I, § 109\(a\)](#), Nov. 15, 1990, 104 Stat. 2469.)

Notes of Decisions (13)

42 U.S.C.A. § 7426, 42 USCA § 7426

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part C. Prevention of Significant Deterioration of Air Quality

Subpart I. Clean Air (Refs & Annos)

42 U.S.C.A. § 7470

§ 7470. Congressional declaration of purpose

Currentness

The purposes of this part are as follows:

- (1) to protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipate¹ to occur from air pollution or from exposures to pollutants in other media, which pollutants originate as emissions to the ambient air)², notwithstanding attainment and maintenance of all national ambient air quality standards;
- (2) to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value;
- (3) to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources;
- (4) to assure that emissions from any source in any State will not interfere with any portion of the applicable implementation plan to prevent significant deterioration of air quality for any other State; and
- (5) to assure that any decision to permit increased air pollution in any area to which this section applies is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decisionmaking process.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 160, as added Pub.L. 95-95, Title I, § 127(a), Aug. 7, 1977, 91 Stat. 731.)

Notes of Decisions (3)

Footnotes

- 1 So in original. Probably should be "anticipated".

2 So in original. Section was enacted without an opening parenthesis.

42 U.S.C.A. § 7470, 42 USCA § 7470

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

End of Document

© 2018 Thomson Reuters. No claim to original U.S. Government Works.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part C. Prevention of Significant Deterioration of Air Quality

Subpart I. Clean Air (Refs & Annos)

42 U.S.C.A. § 7471

§ 7471. Plan requirements

Currentness

In accordance with the policy of [section 7401\(b\)\(1\)](#) of this title, each applicable implementation plan shall contain emission limitations and such other measures as may be necessary, as determined under regulations promulgated under this part, to prevent significant deterioration of air quality in each region (or portion thereof) designated pursuant to [section 7407](#) of this title as attainment or unclassifiable.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 161, as added [Pub.L. 95-95, Title I, § 127\(a\)](#), Aug. 7, 1977, 91 Stat. 731; amended [Pub.L. 101-549, Title I, § 110\(1\)](#), Nov. 15, 1990, 104 Stat. 2470.)

Notes of Decisions (2)

42 U.S.C.A. § 7471, 42 USCA § 7471

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

End of Document

© 2018 Thomson Reuters. No claim to original U.S. Government Works.

United States Code Annotated
Title 42. The Public Health and Welfare
Chapter 85. Air Pollution Prevention and Control (Refs & Annos)
Subchapter I. Programs and Activities
Part C. Prevention of Significant Deterioration of Air Quality
Subpart I. Clean Air (Refs & Annos)

42 U.S.C.A. § 7472

§ 7472. Initial classifications

Currentness

(a) Areas designated as class I

Upon the enactment of this part, all--

- (1) international parks,
- (2) national wilderness areas which exceed 5,000 acres in size,
- (3) national memorial parks which exceed 5,000 acres in size, and
- (4) national parks which exceed six thousand acres in size,

and which are in existence on August 7, 1977, shall be class I areas and may not be redesignated. All areas which were redesignated as class I under regulations promulgated before August 7, 1977, shall be class I areas which may be redesignated as provided in this part. The extent of the areas designated as Class I under this section shall conform to any changes in the boundaries of such areas which have occurred subsequent to August 7, 1977, or which may occur subsequent to November 15, 1990.

(b) Areas designated as class II

All areas in such State designated pursuant to [section 7407\(d\)](#) of this title as attainment or unclassifiable which are not established as class I under subsection (a) of this section shall be class II areas unless redesignated under [section 7474](#) of this title.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 162, as added [Pub.L. 95-95, Title I, § 127\(a\)](#), Aug. 7, 1977, 91 Stat. 731; amended [Pub.L. 95-190, § 14\(a\)\(40\)](#), Nov. 16, 1977, 91 Stat. 1401; [Pub.L. 101-549, Title I, §§ 108\(m\), 110\(2\)](#), Nov. 15, 1990, 104 Stat. 2469, 2470.)

42 U.S.C.A. § 7472, 42 USCA § 7472

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

End of Document

© 2018 Thomson Reuters. No claim to original U.S. Government Works.

<p>United States Code Annotated Title 42. The Public Health and Welfare Chapter 85. Air Pollution Prevention and Control (Refs & Annos) Subchapter I. Programs and Activities Part C. Prevention of Significant Deterioration of Air Quality Subpart I. Clean Air (Refs & Annos)</p>

42 U.S.C.A. § 7473

§ 7473. Increments and ceilings

Currentness

(a) Sulfur oxide and particulate matter; requirement that maximum allowable increases and maximum allowable concentrations not be exceeded

In the case of sulfur oxide and particulate matter, each applicable implementation plan shall contain measures assuring that maximum allowable increases over baseline concentrations of, and maximum allowable concentrations of, such pollutant shall not be exceeded. In the case of any maximum allowable increase (except an allowable increase specified under section 7475(d)(2)(C)(iv) of this title) for a pollutant based on concentrations permitted under national ambient air quality standards for any period other than an annual period, such regulations shall permit such maximum allowable increase to be exceeded during one such period per year.

(b) Maximum allowable increases in concentrations over baseline concentrations

(1) For any class I area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean.....	5
Twenty-four-hour maximum.....	10
Sulfur dioxide:	
Annual arithmetic mean.....	2
Twenty-four-hour maximum.....	5
Three-hour maximum.....	25

(2) For any class II area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean.....	19
Twenty-four-hour maximum.....	37
Sulfur dioxide:	
Annual arithmetic mean.....	20
Twenty-four-hour maximum.....	91
Three-hour maximum.....	512

(3) For any class III area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean.....	37
Twenty-four-hour maximum.....	75
Sulfur dioxide:	
Annual arithmetic mean.....	40
Twenty-four-hour maximum.....	182
Three-hour maximum.....	700

(4) The maximum allowable concentration of any air pollutant in any area to which this part applies shall not exceed a concentration for such pollutant for each period of exposure equal to--

(A) the concentration permitted under the national secondary ambient air quality standard, or

(B) the concentration permitted under the national primary ambient air quality standard,

whichever concentration is lowest for such pollutant for such period of exposure.

(c) Orders or rules for determining compliance with maximum allowable increases in ambient concentrations of air pollutants

(1) In the case of any State which has a plan approved by the Administrator for purposes of carrying out this part, the Governor of such State may, after notice and opportunity for public hearing, issue orders or promulgate rules providing that for purposes of determining compliance with the maximum allowable increases in ambient concentrations of an air pollutant, the following concentrations of such pollutant shall not be taken into account:

(A) concentrations of such pollutant attributable to the increase in emissions from stationary sources which have converted from the use of petroleum products, or natural gas, or both, by reason of an order which is in effect under the provisions of [sections 792\(a\)](#) and [\(b\) of Title 15](#) (or any subsequent legislation which supersedes such provisions) over the emissions from such sources before the effective date of such order.¹

(B) the concentrations of such pollutant attributable to the increase in emissions from stationary sources which have converted from using natural gas by reason of a natural gas curtailment pursuant to a natural gas curtailment plan in effect pursuant to the Federal Power Act [[16 U.S.C.A. § 791a et seq.](#)] over the emissions from such sources before the effective date of such plan,

(C) concentrations of particulate matter attributable to the increase in emissions from construction or other temporary emission-related activities, and

(D) the increase in concentrations attributable to new sources outside the United States over the concentrations attributable to existing sources which are included in the baseline concentration determined in accordance with [section 7479\(4\)](#) of this title.

(2) No action taken with respect to a source under paragraph (1)(A) or (1)(B) shall apply more than five years after the effective date of the order referred to in paragraph (1)(A) or the plan referred to in paragraph (1)(B), whichever is applicable. If both such order and plan are applicable, no such action shall apply more than five years after the later of such effective dates.

(3) No action under this subsection shall take effect unless the Governor submits the order or rule providing for such exclusion to the Administrator and the Administrator determines that such order or rule is in compliance with the provisions of this subsection.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 163, as added [Pub.L. 95-95, Title I, § 127\(a\)](#), Aug. 7, 1977, 91 Stat. 732; amended [Pub.L. 95-190, § 14\(a\)\(41\)](#), Nov. 16, 1977, 91 Stat. 1401.)

[Notes of Decisions \(5\)](#)

Footnotes

1 So in original. The period probably should be a comma.

42 U.S.C.A. § 7473, 42 USCA § 7473

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

End of Document

© 2018 Thomson Reuters. No claim to original U.S. Government Works.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part C. Prevention of Significant Deterioration of Air Quality

Subpart I. Clean Air (Refs & Annos)

42 U.S.C.A. § 7474

§ 7474. Area redesignation

Currentness

(a) Authority of States to redesignate areas

Except as otherwise provided under subsection (c) of this section, a State may redesignate such areas as it deems appropriate as class I areas. The following areas may be redesignated only as class I or II:

(1) an area which exceeds ten thousand acres in size and is a national monument, a national primitive area, a national preserve, a national recreation area, a national wild and scenic river, a national wildlife refuge, a national lakeshore or seashore, and

(2) a national park or national wilderness area established after August 7, 1977, which exceeds ten thousand acres in size.

The extent of the areas referred to in paragraph ¹ (1) and (2) shall conform to any changes in the boundaries of such areas which have occurred subsequent to August 7, 1977, or which may occur subsequent to November 15, 1990. Any area (other than an area referred to in paragraph (1) or (2) or an area established as class I under the first sentence of [section 7472\(a\)](#) of this title) may be redesignated by the State as class III if--

(A) such redesignation has been specifically approved by the Governor of the State, after consultation with the appropriate Committees of the legislature if it is in session or with the leadership of the legislature if it is not in session (unless State law provides that such redesignation must be specifically approved by State legislation) and if general purpose units of local government representing a majority of the residents of the area so redesignated enact legislation (including for such units of local government resolutions where appropriate) concurring in the State's redesignation;

(B) such redesignation will not cause, or contribute to, concentrations of any air pollutant which exceed any maximum allowable increase or maximum allowable concentration permitted under the classification of any other area; and

(C) such redesignation otherwise meets the requirements of this part.

Subparagraph (A) of this paragraph shall not apply to area redesignations by Indian tribes.

(b) Notice and hearing; notice to Federal land manager; written comments and recommendations; regulations; disapproval of redesignation

(1)(A) Prior to redesignation of any area under this part, notice shall be afforded and public hearings shall be conducted in areas proposed to be redesignated and in areas which may be affected by the proposed redesignation. Prior to any such public hearing a satisfactory description and analysis of the health, environmental, economic, social, and energy effects of the proposed redesignation shall be prepared and made available for public inspection and prior to any such redesignation, the description and analysis of such effects shall be reviewed and examined by the redesignating authorities.

(B) Prior to the issuance of notice under subparagraph (A) respecting the redesignation of any area under this subsection, if such area includes any Federal lands, the State shall provide written notice to the appropriate Federal land manager and afford adequate opportunity (but not in excess of 60 days) to confer with the State respecting the intended notice of redesignation and to submit written comments and recommendations with respect to such intended notice of redesignation. In redesignating any area under this section with respect to which any Federal land manager has submitted written comments and recommendations, the State shall publish a list of any inconsistency between such redesignation and such recommendations and an explanation of such inconsistency (together with the reasons for making such redesignation against the recommendation of the Federal land manager).

(C) The Administrator shall promulgate regulations not later than six months after August 7, 1977, to assure, insofar as practicable, that prior to any public hearing on redesignation of any area, there shall be available for public inspection any specific plans for any new or modified major emitting facility which may be permitted to be constructed and operated only if the area in question is designated or redesignated as class III.

(2) The Administrator may disapprove the redesignation of any area only if he finds, after notice and opportunity for public hearing, that such redesignation does not meet the procedural requirements of this section or is inconsistent with the requirements of [section 7472\(a\)](#) of this title or of subsection (a) of this section. If any such disapproval occurs, the classification of the area shall be that which was in effect prior to the redesignation which was disapproved.

(c) Indian reservations

Lands within the exterior boundaries of reservations of federally recognized Indian tribes may be redesignated only by the appropriate Indian governing body. Such Indian governing body shall be subject in all respect to the provisions of subsection (e) of this section.

(d) Review of national monuments, primitive areas, and national preserves

The Federal Land Manager shall review all national monuments, primitive areas, and national preserves, and shall recommend any appropriate areas for redesignation as class I where air quality related values are important attributes of the area. The Federal Land Manager shall report such recommendations, within ² supporting analysis, to the Congress and the affected States within one year after August 7, 1977. The Federal Land Manager shall consult with the appropriate States before making such recommendations.

(e) Resolution of disputes between State and Indian tribes

If any State affected by the redesignation of an area by an Indian tribe or any Indian tribe affected by the redesignation of an area by a State disagrees with such redesignation of any area, or if a permit is proposed to be issued for any new major emitting facility proposed for construction in any State which the Governor of an affected State or governing body of an affected Indian tribe determines will cause or contribute to a cumulative change in air quality in excess of that allowed in this part within the affected State or tribal reservation, the Governor or Indian ruling body may request the Administrator to enter into negotiations with the parties involved to resolve such dispute. If requested by any State or Indian tribe involved, the Administrator shall make a recommendation to resolve the dispute and protect the air quality related values of the lands involved. If the parties involved do not reach agreement, the Administrator shall resolve the dispute and his determination, or the results of agreements reached through other means, shall become part of the applicable plan and shall be enforceable as part of such plan. In resolving such disputes relating to area redesignation, the Administrator shall consider the extent to which the lands involved are of sufficient size to allow effective air quality management or have air quality related values of such an area.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 164, as added [Pub.L. 95-95, Title I, § 127\(a\)](#), Aug. 7, 1977, 91 Stat. 733; amended [Pub.L. 95-190, § 14\(a\)\(42\), \(43\)](#), Nov. 16, 1977, 91 Stat. 1402; [Pub.L. 101-549, Title I, § 108\(n\)](#), Nov. 15, 1990, 104 Stat. 2469.)

[Notes of Decisions \(5\)](#)

Footnotes

1 So in original. Probably should be “paragraphs”.

2 So in original. Probably should be “with”.

42 U.S.C.A. § 7474, 42 USCA § 7474

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part C. Prevention of Significant Deterioration of Air Quality

Subpart I. Clean Air (Refs & Annos)

42 U.S.C.A. § 7475

§ 7475. Preconstruction requirements

Currentness

(a) Major emitting facilities on which construction is commenced

No major emitting facility on which construction is commenced after August 7, 1977, may be constructed in any area to which this part applies unless--

(1) a permit has been issued for such proposed facility in accordance with this part setting forth emission limitations for such facility which conform to the requirements of this part;

(2) the proposed permit has been subject to a review in accordance with this section, the required analysis has been conducted in accordance with regulations promulgated by the Administrator, and a public hearing has been held with opportunity for interested persons including representatives of the Administrator to appear and submit written or oral presentations on the air quality impact of such source, alternatives thereto, control technology requirements, and other appropriate considerations;

(3) the owner or operator of such facility demonstrates, as required pursuant to [section 7410\(j\)](#) of this title, that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area to which this part applies more than one time per year, (B) national ambient air quality standard in any air quality control region, or (C) any other applicable emission standard or standard of performance under this chapter;

(4) the proposed facility is subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility;

(5) the provisions of subsection (d) of this section with respect to protection of class I areas have been complied with for such facility;

(6) there has been an analysis of any air quality impacts projected for the area as a result of growth associated with such facility;

(7) the person who owns or operates, or proposes to own or operate, a major emitting facility for which a permit is required under this part agrees to conduct such monitoring as may be necessary to determine the effect which emissions from any such facility may have, or is having, on air quality in any area which may be affected by emissions from such source; and

(8) in the case of a source which proposes to construct in a class III area, emissions from which would cause or contribute to exceeding the maximum allowable increments applicable in a class II area and where no standard under [section 7411](#) of this title has been promulgated subsequent to August 7, 1977, for such source category, the Administrator has approved the determination of best available technology as set forth in the permit.

(b) Exception

The demonstration pertaining to maximum allowable increases required under subsection (a)(3) of this section shall not apply to maximum allowable increases for class II areas in the case of an expansion or modification of a major emitting facility which is in existence on August 7, 1977, whose allowable emissions of air pollutants, after compliance with subsection (a)(4) of this section, will be less than fifty tons per year and for which the owner or operator of such facility demonstrates that emissions of particulate matter and sulfur oxides will not cause or contribute to ambient air quality levels in excess of the national secondary ambient air quality standard for either of such pollutants.

(c) Permit applications

Any completed permit application under [section 7410](#) of this title for a major emitting facility in any area to which this part applies shall be granted or denied not later than one year after the date of filing of such completed application.

(d) Action taken on permit applications; notice; adverse impact on air quality related values; variance; emission limitations

(1) Each State shall transmit to the Administrator a copy of each permit application relating to a major emitting facility received by such State and provide notice to the Administrator of every action related to the consideration of such permit.

(2)(A) The Administrator shall provide notice of the permit application to the Federal Land Manager and the Federal official charged with direct responsibility for management of any lands within a class I area which may be affected by emissions from the proposed facility.

(B) The Federal Land Manager and the Federal official charged with direct responsibility for management of such lands shall have an affirmative responsibility to protect the air quality related values (including visibility) of any such lands within a class I area and to consider, in consultation with the Administrator, whether a proposed major emitting facility will have an adverse impact on such values.

(C)(i) In any case where the Federal official charged with direct responsibility for management of any lands within a class I area or the Federal Land Manager of such lands, or the Administrator, or the Governor of an adjacent State containing such a class I area files a notice alleging that emissions from a proposed major emitting facility may cause or contribute to a change in the air quality in such area and identifying the potential adverse impact of such change, a permit shall

not be issued unless the owner or operator of such facility demonstrates that emissions of particulate matter and sulfur dioxide will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area.

(ii) In any case where the Federal Land Manager demonstrates to the satisfaction of the State that the emissions from such facility will have an adverse impact on the air quality-related values (including visibility) of such lands, notwithstanding the fact that the change in air quality resulting from emissions from such facility will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area, a permit shall not be issued.

(iii) In any case where the owner or operator of such facility demonstrates to the satisfaction of the Federal Land Manager, and the Federal Land Manager so certifies, that the emissions from such facility will have no adverse impact on the air quality-related values of such lands (including visibility), notwithstanding the fact that the change in air quality resulting from emissions from such facility will cause or contribute to concentrations which exceed the maximum allowable increases for class I areas, the State may issue a permit.

(iv) In the case of a permit issued pursuant to clause (iii), such facility shall comply with such emission limitations under such permit as may be necessary to assure that emissions of sulfur oxides and particulates from such facility will not cause or contribute to concentrations of such pollutant which exceed the following maximum allowable increases over the baseline concentration for such pollutants:

Maximum allowable increase (in micrograms per cubic meter)

Particulate matter:

Annual geometric mean..... 19

Twenty-four-hour maximum..... 37

Sulfur dioxide:

Annual arithmetic mean..... 20

Twenty-four-hour maximum..... 91

Three-hour maximum..... 325

(D)(i) In any case where the owner or operator of a proposed major emitting facility who has been denied a certification under subparagraph (C)(iii) demonstrates to the satisfaction of the Governor, after notice and public hearing, and the Governor finds, that the facility cannot be constructed by reason of any maximum allowable increase for sulfur dioxide for periods of twenty-four hours or less applicable to any class I area and, in the case of Federal mandatory class I areas, that a variance under this clause will not adversely affect the air quality related values of the area (including visibility), the Governor, after consideration of the Federal Land Manager's recommendation (if any) and subject to his concurrence, may grant a variance from such maximum allowable increase. If such variance is granted, a permit may be issued to such source pursuant to the requirements of this subparagraph.

(ii) In any case in which the Governor recommends a variance under this subparagraph in which the Federal Land Manager does not concur, the recommendations of the Governor and the Federal Land Manager shall be transmitted to

the President. The President may approve the Governor's recommendation if he finds that such variance is in the national interest. No Presidential finding shall be reviewable in any court. The variance shall take effect if the President approves the Governor's recommendations. The President shall approve or disapprove such recommendation within ninety days after his receipt of the recommendations of the Governor and the Federal Land Manager.

(iii) In the case of a permit issued pursuant to this subparagraph, such facility shall comply with such emission limitations under such permit as may be necessary to assure that emissions of sulfur oxides from such facility will not (during any day on which the otherwise applicable maximum allowable increases are exceeded) cause or contribute to concentrations which exceed the following maximum allowable increases for such areas over the baseline concentration for such pollutant and to assure that such emissions will not cause or contribute to concentrations which exceed the otherwise applicable maximum allowable increases for periods of exposure of 24 hours or less on more than 18 days during any annual period:

MAXIMUM ALLOWABLE INCREASE

[In micrograms per cubic meter]

Period of exposure	Low terrain areas	High terrain areas
24-hr maximum.....	36	62
3-hr maximum.....	130	221

(iv) For purposes of clause (iii), the term “high terrain area” means with respect to any facility, any area having an elevation of 900 feet or more above the base of the stack of such facility, and the term “low terrain area” means any area other than a high terrain area.

(e) Analysis; continuous air quality monitoring data; regulations; model adjustments

(1) The review provided for in subsection (a) of this section shall be preceded by an analysis in accordance with regulations of the Administrator, promulgated under this subsection, which may be conducted by the State (or any general purpose unit of local government) or by the major emitting facility applying for such permit, of the ambient air quality at the proposed site and in areas which may be affected by emissions from such facility for each pollutant subject to regulation under this chapter which will be emitted from such facility.

(2) Effective one year after August 7, 1977, the analysis required by this subsection shall include continuous air quality monitoring data gathered for purposes of determining whether emissions from such facility will exceed the maximum allowable increases or the maximum allowable concentration permitted under this part. Such data shall be gathered over a period of one calendar year preceding the date of application for a permit under this part unless the State, in accordance with regulations promulgated by the Administrator, determines that a complete and adequate analysis for such purposes may be accomplished in a shorter period. The results of such analysis shall be available at the time of the public hearing on the application for such permit.

(3) The Administrator shall within six months after August 7, 1977, promulgate regulations respecting the analysis required under this subsection which regulations--

(A) shall not require the use of any automatic or uniform buffer zone or zones,

(B) shall require an analysis of the ambient air quality, climate and meteorology, terrain, soils and vegetation, and visibility at the site of the proposed major emitting facility and in the area potentially affected by the emissions from such facility for each pollutant regulated under this chapter which will be emitted from, or which results from the construction or operation of, such facility, the size and nature of the proposed facility, the degree of continuous emission reduction which could be achieved by such facility, and such other factors as may be relevant in determining the effect of emissions from a proposed facility on any air quality control region,

(C) shall require the results of such analysis shall be available at the time of the public hearing on the application for such permit, and

(D) shall specify with reasonable particularity each air quality model or models to be used under specified sets of conditions for purposes of this part.

Any model or models designated under such regulations may be adjusted upon a determination, after notice and opportunity for public hearing, by the Administrator that such adjustment is necessary to take into account unique terrain or meteorological characteristics of an area potentially affected by emissions from a source applying for a permit required under this part.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 165, as added [Pub.L. 95-95, Title I, § 127\(a\)](#), Aug. 7, 1977, 91 Stat. 735; amended [Pub.L. 95-190, § 14\(a\)\(44\)-\(51\)](#), Nov. 16, 1977, 91 Stat. 1402.)

[Notes of Decisions \(65\)](#)

42 U.S.C.A. § 7475, 42 USCA § 7475

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part C. Prevention of Significant Deterioration of Air Quality

Subpart I. Clean Air (Refs & Annos)

42 U.S.C.A. § 7476

§ 7476. Other pollutants

Currentness

(a) Hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides

In the case of the pollutants hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides, the Administrator shall conduct a study and not later than two years after August 7, 1977, promulgate regulations to prevent the significant deterioration of air quality which would result from the emissions of such pollutants. In the case of pollutants for which national ambient air quality standards are promulgated after August 7, 1977, he shall promulgate such regulations not more than 2 years after the date of promulgation of such standards.

(b) Effective date of regulations

Regulations referred to in subsection (a) of this section shall become effective one year after the date of promulgation. Within 21 months after such date of promulgation such plan revision shall be submitted to the Administrator who shall approve or disapprove the plan within 25 months after such date or ¹ promulgation in the same manner as required under [section 7410](#) of this title.

(c) Contents of regulations

Such regulations shall provide specific numerical measures against which permit applications may be evaluated, a framework for stimulating improved control technology, protection of air quality values, and fulfill the goals and purposes set forth in [section 7401](#) and [section 7470](#) of this title.

(d) Specific measures to fulfill goals and purposes

The regulations of the Administrator under subsection (a) of this section shall provide specific measures at least as effective as the increments established in [section 7473](#) of this title to fulfill such goals and purposes, and may contain air quality increments, emission density requirements, or other measures.

(e) Area classification plan not required

With respect to any air pollutant for which a national ambient air quality standard is established other than sulfur oxides or particulate matter, an area classification plan shall not be required under this section if the implementation plan adopted by the State and submitted for the Administrator's approval or promulgated by the Administrator under [section](#)

7410(c) of this title contains other provisions which when considered as a whole, the Administrator finds will carry out the purposes in [section 7470](#) of this title at least as effectively as an area classification plan for such pollutant. Such other provisions referred to in the preceding sentence need not require the establishment of maximum allowable increases with respect to such pollutant for any area to which this section applies.

(f) PM-10 increments

The Administrator is authorized to substitute, for the maximum allowable increases in particulate matter specified in [section 7473\(b\)](#) of this title and [section 7475\(d\)\(2\)\(C\)\(iv\)](#) of this title, maximum allowable increases in particulate matter with an aerodynamic diameter smaller than or equal to 10 micrometers. Such substituted maximum allowable increases shall be of equal stringency in effect as those specified in the provisions for which they are substituted. Until the Administrator promulgates regulations under the authority of this subsection, the current maximum allowable increases in concentrations of particulate matter shall remain in effect.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 166, as added [Pub.L. 95-95, Title I, § 127\(a\)](#), Aug. 7, 1977, 91 Stat. 739; amended [Pub.L. 101-549, Title I, § 105\(b\)](#), Nov. 15, 1990, 104 Stat. 2462.)

[Notes of Decisions \(6\)](#)

Footnotes

¹ So in original. Probably should be “of”.

42 U.S.C.A. § 7476, 42 USCA § 7476

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part C. Prevention of Significant Deterioration of Air Quality

Subpart I. Clean Air (Refs & Annos)

42 U.S.C.A. § 7477

§ 7477. Enforcement

Currentness

The Administrator shall, and a State may, take such measures, including issuance of an order, or seeking injunctive relief, as necessary to prevent the construction or modification of a major emitting facility which does not conform to the requirements of this part, or which is proposed to be constructed in any area designated pursuant to [section 7407\(d\)](#) of this title as attainment or unclassifiable and which is not subject to an implementation plan which meets the requirements of this part.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 167, as added [Pub.L. 95-95, Title I, § 127\(a\)](#), Aug. 7, 1977, 91 Stat. 740; amended [Pub.L. 101-549, Title I, § 110\(3\), Title VII, § 708](#), Nov. 15, 1990, 104 Stat. 2470, 2684.)

[Notes of Decisions \(44\)](#)

42 U.S.C.A. § 7477, 42 USCA § 7477

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

End of Document

© 2018 Thomson Reuters. No claim to original U.S. Government Works.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part C. Prevention of Significant Deterioration of Air Quality

Subpart I. Clean Air (Refs & Annos)

42 U.S.C.A. § 7478

§ 7478. Period before plan approval

Currentness

(a) Existing regulations to remain in effect

Until such time as an applicable implementation plan is in effect for any area, which plan meets the requirements of this part to prevent significant deterioration of air quality with respect to any air pollutant, applicable regulations under this chapter prior to August 7, 1977, shall remain in effect to prevent significant deterioration of air quality in any such area for any such pollutant except as otherwise provided in subsection (b) of this section.

(b) Regulations deemed amended; construction commenced after June 1, 1975

If any regulation in effect prior to August 7, 1977, to prevent significant deterioration of air quality would be inconsistent with the requirements of [section 7472\(a\)](#), [section 7473\(b\)](#) or [section 7474\(a\)](#) of this title, then such regulations shall be deemed amended so as to conform with such requirements. In the case of a facility on which construction was commenced (in accordance with the definition of “commenced” in [section 7479\(2\)](#) of this title) after June 1, 1975, and prior to August 7, 1977, the review and permitting of such facility shall be in accordance with the regulations for the prevention of significant deterioration in effect prior to August 7, 1977.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 168, as added [Pub.L. 95-95, Title I, § 127\(a\)](#), Aug. 7, 1977, 91 Stat. 740; amended [Pub.L. 95-190, § 14\(a\)\(52\)](#), Nov. 16, 1977, 91 Stat. 1402.)

[Notes of Decisions \(1\)](#)

42 U.S.C.A. § 7478, 42 USCA § 7478

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part C. Prevention of Significant Deterioration of Air Quality

Subpart I. Clean Air (Refs & Annos)

42 U.S.C.A. § 7479

§ 7479. Definitions

Currentness

For purposes of this part--

(1) The term “major emitting facility” means any of the following stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any air pollutant from the following types of stationary sources: fossil-fuel fired steam electric plants of more than two hundred and fifty million British thermal units per hour heat input, coal cleaning plants (thermal dryers), kraft pulp mills, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than fifty tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process plants, fossil-fuel boilers of more than two hundred and fifty million British thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding three hundred thousand barrels, taconite ore processing facilities, glass fiber processing plants, charcoal production facilities. Such term also includes any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant. This term shall not include new or modified facilities which are nonprofit health or education institutions which have been exempted by the State.

(2)(A) The term “commenced” as applied to construction of a major emitting facility means that the owner or operator has obtained all necessary preconstruction approvals or permits required by Federal, State, or local air pollution emissions and air quality laws or regulations and either has (i) begun, or caused to begin, a continuous program of physical on-site construction of the facility or (ii) entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of construction of the facility to be completed within a reasonable time.

(B) The term “necessary preconstruction approvals or permits” means those permits or approvals, required by the permitting authority as a precondition to undertaking any activity under clauses (i) or (ii) of subparagraph (A) of this paragraph.

(C) The term “construction” when used in connection with any source or facility, includes the modification (as defined in [section 7411\(a\)](#) of this title) of any source or facility.

(3) The term “best available control technology” means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of “best available control technology” result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to [section 7411](#) or [7412](#) of this title. Emissions from any source utilizing clean fuels, or any other means, to comply with this paragraph shall not be allowed to increase above levels that would have been required under this paragraph as it existed prior to November 15, 1990.

(4) The term “baseline concentration” means, with respect to a pollutant, the ambient concentration levels which exist at the time of the first application for a permit in an area subject to this part, based on air quality data available in the Environmental Protection Agency or a State air pollution control agency and on such monitoring data as the permit applicant is required to submit. Such ambient concentration levels shall take into account all projected emissions in, or which may affect, such area from any major emitting facility on which construction commenced prior to January 6, 1975, but which has not begun operation by the date of the baseline air quality concentration determination. Emissions of sulfur oxides and particulate matter from any major emitting facility on which construction commenced after January 6, 1975, shall not be included in the baseline and shall be counted against the maximum allowable increases in pollutant concentrations established under this part.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 169, as added [Pub.L. 95-95, Title I, § 127\(a\)](#), Aug. 7, 1977, 91 Stat. 740; amended [Pub.L. 95-190, § 14\(a\)\(54\)](#), Nov. 16, 1977, 91 Stat. 1402; [Pub.L. 101-549, Title III, § 305\(b\)](#), [Title IV, § 403\(d\)](#), Nov. 15, 1990, 104 Stat. 2583, 2631.)

[Notes of Decisions \(27\)](#)

42 U.S.C.A. § 7479, 42 USCA § 7479

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

United States Code Annotated
Title 42. The Public Health and Welfare
Chapter 85. Air Pollution Prevention and Control (Refs & Annos)
Subchapter I. Programs and Activities
Part C. Prevention of Significant Deterioration of Air Quality
Subpart II. Visibility Protection (Refs & Annos)

42 U.S.C.A. § 7492

§ 7492. Visibility

Currentness

(a) Studies

(1) The Administrator, in conjunction with the National Park Service and other appropriate Federal agencies, shall conduct research to identify and evaluate sources and source regions of both visibility impairment and regions that provide predominantly clean air in class I areas. A total of \$8,000,000 per year for 5 years is authorized to be appropriated for the Environmental Protection Agency and the other Federal agencies to conduct this research. The research shall include--

- (A) expansion of current visibility related monitoring in class I areas;
- (B) assessment of current sources of visibility impairing pollution and clean air corridors;
- (C) adaptation of regional air quality models for the assessment of visibility;
- (D) studies of atmospheric chemistry and physics of visibility.

(2) Based on the findings available from the research required in subsection (a)(1) of this section as well as other available scientific and technical data, studies, and other available information pertaining to visibility source-receptor relationships, the Administrator shall conduct an assessment and evaluation that identifies, to the extent possible, sources and source regions of visibility impairment including natural sources as well as source regions of clear air for class I areas. The Administrator shall produce interim findings from this study within 3 years after November 15, 1990.

(b) Impacts of other provisions

Within 24 months after November 15, 1990, the Administrator shall conduct an assessment of the progress and improvements in visibility in class I areas that are likely to result from the implementation of the provisions of the Clean Air Act Amendments of 1990 other than the provisions of this section. Every 5 years thereafter the Administrator shall conduct an assessment of actual progress and improvement in visibility in class I areas. The Administrator shall prepare a written report on each assessment and transmit copies of these reports to the appropriate committees of Congress.

(c) Establishment of visibility transport regions and commissions**(1) Authority to establish visibility transport regions**

Whenever, upon the Administrator's motion or by petition from the Governors of at least two affected States, the Administrator has reason to believe that the current or projected interstate transport of air pollutants from one or more States contributes significantly to visibility impairment in class I areas located in the affected States, the Administrator may establish a transport region for such pollutants that includes such States. The Administrator, upon the Administrator's own motion or upon petition from the Governor of any affected State, or upon the recommendations of a transport commission established under subsection (b) of this section ¹ may--

(A) add any State or portion of a State to a visibility transport region when the Administrator determines that the interstate transport of air pollutants from such State significantly contributes to visibility impairment in a class I area located within the transport region, or

(B) remove any State or portion of a State from the region whenever the Administrator has reason to believe that the control of emissions in that State or portion of the State pursuant to this section will not significantly contribute to the protection or enhancement of visibility in any class I area in the region.

(2) Visibility transport commissions

Whenever the Administrator establishes a transport region under subsection (c)(1) of this section, the Administrator shall establish a transport commission comprised of (as a minimum) each of the following members:

(A) the Governor of each State in the Visibility Transport Region, or the Governor's designee;

(B) The ² Administrator or the Administrator's designee; and

(C) A ² representative of each Federal agency charged with the direct management of each class I area or areas within the Visibility Transport Region.

(3) Ex officio members

All representatives of the Federal Government shall be ex officio members.

(4) Federal Advisory Committee Act

The visibility transport commissions shall be exempt from the requirements of the Federal Advisory Committee Act.

(d) Duties of visibility transport commissions

A Visibility Transport Commission--

(1) shall assess the scientific and technical data, studies, and other currently available information, including studies conducted pursuant to subsection (a)(1) of this section, pertaining to adverse impacts on visibility from potential or projected growth in emissions from sources located in the Visibility Transport Region; and

(2) shall, within 4 years of establishment, issue a report to the Administrator recommending what measures, if any, should be taken under this chapter to remedy such adverse impacts. The report required by this subsection shall address at least the following measures:

(A) the establishment of clean air corridors, in which additional restrictions on increases in emissions may be appropriate to protect visibility in affected class I areas;

(B) the imposition of the requirements of part D of this subchapter affecting the construction of new major stationary sources or major modifications to existing sources in such clean air corridors specifically including the alternative siting analysis provisions of [section 7503\(a\)\(5\)](#) of this title; and

(C) the promulgation of regulations under [section 7491](#) of this title to address long range strategies for addressing regional haze which impairs visibility in affected class I areas.

(e) Duties of Administrator

(1) The Administrator shall, taking into account the studies pursuant to subsection (a)(1) of this section and the reports pursuant to subsection (d)(2) of this section and any other relevant information, within eighteen months of receipt of the report referred to in subsection (d)(2) of this section, carry out the Administrator's regulatory responsibilities under [section 7491](#) of this title, including criteria for measuring "reasonable progress" toward the national goal.

(2) Any regulations promulgated under [section 7491](#) of this title pursuant to this subsection shall require affected States to revise within 12 months their implementation plans under [section 7410](#) of this title to contain such emission limits, schedules of compliance, and other measures as may be necessary to carry out regulations promulgated pursuant to this subsection.

(f) Grand Canyon visibility transport commission

The Administrator pursuant to subsection (c)(1) of this section shall, within 12 months, establish a visibility transport commission for the region affecting the visibility of the Grand Canyon National Park.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 169B, as added [Pub.L. 101-549, Title VIII, § 816](#), Nov. 15, 1990, 104 Stat. 2695.)

Notes of Decisions (2)

Footnotes

1 So in original. Words “subsection (b) of this section” probably should be “paragraph (2)”.

2 So in original. Probably should not be capitalized.

42 U.S.C.A. § 7492, 42 USCA § 7492

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

End of Document

© 2018 Thomson Reuters. No claim to original U.S. Government Works.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part D. Plan Requirements for Nonattainment Areas

Subpart 1. Nonattainment Areas in General (Refs & Annos)

42 U.S.C.A. § 7506a

§ 7506a. Interstate transport commissions

Currentness

(a) Authority to establish interstate transport regions

Whenever, on the Administrator's own motion or by petition from the Governor of any State, the Administrator has reason to believe that the interstate transport of air pollutants from one or more States contributes significantly to a violation of a national ambient air quality standard in one or more other States, the Administrator may establish, by rule, a transport region for such pollutant that includes such States. The Administrator, on the Administrator's own motion or upon petition from the Governor of any State, or upon the recommendation of a transport commission established under subsection (b) of this section, may--

(1) add any State or portion of a State to any region established under this subsection whenever the Administrator has reason to believe that the interstate transport of air pollutants from such State significantly contributes to a violation of the standard in the transport region, or

(2) remove any State or portion of a State from the region whenever the Administrator has reason to believe that the control of emissions in that State or portion of the State pursuant to this section will not significantly contribute to the attainment of the standard in any area in the region.

The Administrator shall approve or disapprove any such petition or recommendation within 18 months of its receipt. The Administrator shall establish appropriate proceedings for public participation regarding such petitions and motions, including notice and comment.

(b) Transport commissions

(1) Establishment

Whenever the Administrator establishes a transport region under subsection (a) of this section, the Administrator shall establish a transport commission comprised of (at a minimum) each of the following members:

(A) The Governor of each State in the region or the designee of each such Governor.

(B) The Administrator or the Administrator's designee.

(C) The Regional Administrator (or the Administrator's designee) for each Regional Office for each Environmental Protection Agency Region affected by the transport region concerned.

(D) An air pollution control official representing each State in the region, appointed by the Governor.

Decisions of, and recommendations and requests to, the Administrator by each transport commission may be made only by a majority vote of all members other than the Administrator and the Regional Administrators (or designees thereof).

(2) Recommendations

The transport commission shall assess the degree of interstate transport of the pollutant or precursors to the pollutant throughout the transport region, assess strategies for mitigating the interstate pollution, and recommend to the Administrator such measures as the Commission determines to be necessary to ensure that the plans for the relevant States meet the requirements of [section 7410\(a\)\(2\)\(D\)](#) of this title. Such commission shall not be subject to the provisions of the Federal Advisory Committee Act (5 U.S.C. App.).

(c) Commission requests

A transport commission established under subsection (b) of this section may request the Administrator to issue a finding under [section 7410\(k\)\(5\)](#) of this title that the implementation plan for one or more of the States in the transport region is substantially inadequate to meet the requirements of [section 7410\(a\)\(2\)\(D\)](#) of this title. The Administrator shall approve, disapprove, or partially approve and partially disapprove such a request within 18 months of its receipt and, to the extent the Administrator approves such request, issue the finding under [section 7410\(k\)\(5\)](#) of this title at the time of such approval. In acting on such request, the Administrator shall provide an opportunity for public participation and shall address each specific recommendation made by the commission. Approval or disapproval of such a request shall constitute final agency action within the meaning of [section 7607\(b\)](#) of this title.

CREDIT(S)

(July 14, 1955, c. 360, Title I, § 176A, as added [Pub.L. 101-549, Title I, § 102\(f\)\(1\)](#), Nov. 15, 1990, 104 Stat. 2419.)

Notes of Decisions (1)

42 U.S.C.A. § 7506a, 42 USCA § 7506a

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter I. Programs and Activities

Part D. Plan Requirements for Nonattainment Areas

Subpart 2. Additional Provisions for Ozone Nonattainment Areas

42 U.S.C.A. § 7511a

§ 7511a. Plan submissions and requirements

Currentness

(a) Marginal Areas

Each State in which all or part of a Marginal Area is located shall, with respect to the Marginal Area (or portion thereof, to the extent specified in this subsection), submit to the Administrator the State implementation plan revisions (including the plan items) described under this subsection except to the extent the State has made such submissions as of November 15, 1990.

(1) Inventory

Within 2 years after November 15, 1990, the State shall submit a comprehensive, accurate, current inventory of actual emissions from all sources, as described in [section 7502\(c\)\(3\)](#) of this title, in accordance with guidance provided by the Administrator.

(2) Corrections to the State implementation plan

Within the periods prescribed in this paragraph, the State shall submit a revision to the State implementation plan that meets the following requirements--

(A) Reasonably available control technology corrections

For any Marginal Area (or, within the Administrator's discretion, portion thereof) the State shall submit, within 6 months of the date of classification under [section 7511\(a\)](#) of this title, a revision that includes such provisions to correct requirements in (or add requirements to) the plan concerning reasonably available control technology as were required under [section 7502\(b\)](#) of this title (as in effect immediately before November 15, 1990), as interpreted in guidance issued by the Administrator under [section 7408](#) of this title before November 15, 1990.

(B) Savings clause for vehicle inspection and maintenance

(i) For any Marginal Area (or, within the Administrator's discretion, portion thereof), the plan for which already includes, or was required by [section 7502\(b\)\(11\)\(B\)](#) of this title (as in effect immediately before November 15, 1990) to have included, a specific schedule for implementation of a vehicle emission control inspection and maintenance

(ii) one year after the adoption date, in the case of gasoline dispensing facilities which dispense at least 100,000 gallons of gasoline per month, based on average monthly sales for the 2-year period before the adoption date; or

(iii) 2 years after the adoption date, in the case of all other gasoline dispensing facilities.

Any gasoline dispensing facility described under both clause (i) and clause (ii) shall meet the requirements of clause (i).

(C) Reference to terms

For purposes of this paragraph, any reference to the term “adoption date” shall be considered a reference to the date of adoption by the State of requirements for the installation and operation of a system for gasoline vapor recovery of emissions from the fueling of motor vehicles.

(4) Motor vehicle inspection and maintenance

For all Moderate Areas, the State shall submit, immediately after November 15, 1990, a revision to the applicable implementation plan that includes provisions necessary to provide for a vehicle inspection and maintenance program as described in subsection (a)(2)(B) of this section (without regard to whether or not the area was required by [section 7502\(b\)\(11\)\(B\)](#) of this title (as in effect immediately before November 15, 1990) to have included a specific schedule for implementation of such a program).

(5) General offset requirement

For purposes of satisfying the emission offset requirements of this part, the ratio of total emission reductions of volatile organic compounds to total increase³ emissions of such air pollutant shall be at least 1.15 to 1.

(c) Serious Areas

Except as otherwise specified in paragraph (4), each State in which all or part of a Serious Area is located shall, with respect to the Serious Area (or portion thereof, to the extent specified in this subsection), make the submissions described under subsection (b) of this section (relating to Moderate Areas), and shall also submit the revisions to the applicable implementation plan (including the plan items) described under this subsection. For any Serious Area, the terms “major source” and “major stationary source” include (in addition to the sources described in [section 7602](#) of this title) any stationary source or group of sources located within a contiguous area and under common control that emits, or has the potential to emit, at least 50 tons per year of volatile organic compounds.

(1) Enhanced monitoring

In order to obtain more comprehensive and representative data on ozone air pollution, not later than 18 months after November 15, 1990, the Administrator shall promulgate rules, after notice and public comment, for enhanced monitoring of ozone, oxides of nitrogen, and volatile organic compounds. The rules shall, among other things, cover the location and maintenance of monitors. Immediately following the promulgation of rules by the Administrator

relating to enhanced monitoring, the State shall commence such actions as may be necessary to adopt and implement a program based on such rules, to improve monitoring for ambient concentrations of ozone, oxides of nitrogen and volatile organic compounds and to improve monitoring of emissions of oxides of nitrogen and volatile organic compounds. Each State implementation plan for the area shall contain measures to improve the ambient monitoring of such air pollutants.

(2) Attainment and reasonable further progress demonstrations

Within 4 years after November 15, 1990, the State shall submit a revision to the applicable implementation plan that includes each of the following:

(A) Attainment demonstration

A demonstration that the plan, as revised, will provide for attainment of the ozone national ambient air quality standard by the applicable attainment date. This attainment demonstration must be based on photochemical grid modeling or any other analytical method determined by the Administrator, in the Administrator's discretion, to be at least as effective.

(B) Reasonable further progress demonstration

A demonstration that the plan, as revised, will result in VOC emissions reductions from the baseline emissions described in subsection (b)(1)(B) of this section equal to the following amount averaged over each consecutive 3-year period beginning 6 years after November 15, 1990, until the attainment date:

(i) at least 3 percent of baseline emissions each year; or

(ii) an amount less than 3 percent of such baseline emissions each year, if the State demonstrates to the satisfaction of the Administrator that the plan reflecting such lesser amount includes all measures that can feasibly be implemented in the area, in light of technological achievability.

To lessen the 3 percent requirement under clause (ii), a State must demonstrate to the satisfaction of the Administrator that the plan for the area includes the measures that are achieved in practice by sources in the same source category in nonattainment areas of the next higher classification. Any determination to lessen the 3 percent requirement shall be reviewed at each milestone under subsection (g) of this section and revised to reflect such new measures (if any) achieved in practice by sources in the same category in any State, allowing a reasonable time to implement such measures. The emission reductions described in this subparagraph shall be calculated in accordance with subsection (b)(1)(C) and (D) of this section (concerning creditability of reductions). The reductions creditable for the period beginning 6 years after November 15, 1990, shall include reductions that occurred before such period, computed in accordance with subsection (b)(1) of this section, that exceed the 15-percent amount of reductions required under subsection (b)(1)(A) of this section.

(C) NO_x control

The revision may contain, in lieu of the demonstration required under subparagraph (B), a demonstration to the satisfaction of the Administrator that the applicable implementation plan, as revised, provides for reductions of

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter II. Emission Standards for Moving Sources

Part A. Motor Vehicle Emission and Fuel Standards (Refs & Annos)

42 U.S.C.A. § 7547

§ 7547. Nonroad engines and vehicles

Currentness

(a) Emissions standards

(1) The Administrator shall conduct a study of emissions from nonroad engines and nonroad vehicles (other than locomotives or engines used in locomotives) to determine if such emissions cause, or significantly contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. Such study shall be completed within 12 months of November 15, 1990.

(2) After notice and opportunity for public hearing, the Administrator shall determine within 12 months after completion of the study under paragraph (1), based upon the results of such study, whether emissions of carbon monoxide, oxides of nitrogen, and volatile organic compounds from new and existing nonroad engines or nonroad vehicles (other than locomotives or engines used in locomotives) are significant contributors to ozone or carbon monoxide concentrations in more than 1 area which has failed to attain the national ambient air quality standards for ozone or carbon monoxide. Such determination shall be included in the regulations under paragraph (3).

(3) If the Administrator makes an affirmative determination under paragraph (2) the Administrator shall, within 12 months after completion of the study under paragraph (1), promulgate (and from time to time revise) regulations containing standards applicable to emissions from those classes or categories of new nonroad engines and new nonroad vehicles (other than locomotives or engines used in locomotives) which in the Administrator's judgment cause, or contribute to, such air pollution. Such standards shall achieve the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the engines or vehicles to which such standards apply, giving appropriate consideration to the cost of applying such technology within the period of time available to manufacturers and to noise, energy, and safety factors associated with the application of such technology. In determining what degree of reduction will be available, the Administrator shall first consider standards equivalent in stringency to standards for comparable motor vehicles or engines (if any) regulated under [section 7521](#) of this title, taking into account the technological feasibility, costs, safety, noise, and energy factors associated with achieving, as appropriate, standards of such stringency and lead time. The regulations shall apply to the useful life of the engines or vehicles (as determined by the Administrator).

(4) If the Administrator determines that any emissions not referred to in paragraph (2) from new nonroad engines or vehicles significantly contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, the Administrator may promulgate (and from time to time revise) such regulations as the Administrator deems appropriate containing standards applicable to emissions from those classes or categories of new nonroad engines and new nonroad vehicles (other than locomotives or engines used in locomotives) which in the Administrator's judgment

cause, or contribute to, such air pollution, taking into account costs, noise, safety, and energy factors associated with the application of technology which the Administrator determines will be available for the engines and vehicles to which such standards apply. The regulations shall apply to the useful life of the engines or vehicles (as determined by the Administrator).

(5) Within 5 years after November 15, 1990, the Administrator shall promulgate regulations containing standards applicable to emissions from new locomotives and new engines used in locomotives. Such standards shall achieve the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the locomotives or engines to which such standards apply, giving appropriate consideration to the cost of applying such technology within the period of time available to manufacturers and to noise, energy, and safety factors associated with the application of such technology.

(b) Effective date

Standards under this section shall take effect at the earliest possible date considering the lead time necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period and energy and safety.

(c) Safe controls

Effective with respect to new engines or vehicles to which standards under this section apply, no emission control device, system, or element of design shall be used in such a new nonroad engine or new nonroad vehicle for purposes of complying with such standards if such device, system, or element of design will cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation or function. In determining whether an unreasonable risk exists, the Administrator shall consider factors including those described in [section 7521\(a\)\(4\)\(B\)](#) of this title.

(d) Enforcement

The standards under this section shall be subject to [sections 7525, 7541, 7542, and 7543](#) of this title, with such modifications of the applicable regulations implementing such sections as the Administrator deems appropriate, and shall be enforced in the same manner as standards prescribed under [section 7521](#) of this title. The Administrator shall revise or promulgate regulations as may be necessary to determine compliance with, and enforce, standards in effect under this section.

CREDIT(S)

(July 14, 1955, c. 360, Title II, § 213, as added [Pub.L. 93-319](#), § 10, June 22, 1974, 88 Stat. 261; amended [Pub.L. 101-549](#), Title II, § 222(a), Nov. 15, 1990, 104 Stat. 2500.)

[Notes of Decisions \(9\)](#)

42 U.S.C.A. § 7547, 42 USCA § 7547

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

United States Code Annotated

Title 42. The Public Health and Welfare

Chapter 85. Air Pollution Prevention and Control (Refs & Annos)

Subchapter III. General Provisions

42 U.S.C.A. § 7607

§ 7607. Administrative proceedings and judicial review

Currentness

(a) Administrative subpoenas; confidentiality; witnesses

In connection with any determination under [section 7410\(f\)](#) of this title, or for purposes of obtaining information under [section 7521\(b\)\(4\)](#) or [7545\(c\)\(3\)](#) of this title, any investigation, monitoring, reporting requirement, entry, compliance inspection, or administrative enforcement proceeding under the ¹ chapter (including but not limited to [section 7413](#), [section 7414](#), [section 7420](#), [section 7429](#), [section 7477](#), [section 7524](#), [section 7525](#), [section 7542](#), [section 7603](#), or [section 7606](#) of this title), ² the Administrator may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and he may administer oaths. Except for emission data, upon a showing satisfactory to the Administrator by such owner or operator that such papers, books, documents, or information or particular part thereof, if made public, would divulge trade secrets or secret processes of such owner or operator, the Administrator shall consider such record, report, or information or particular portion thereof confidential in accordance with the purposes of [section 1905 of Title 18](#), except that such paper, book, document, or information may be disclosed to other officers, employees, or authorized representatives of the United States concerned with carrying out this chapter, to persons carrying out the National Academy of Sciences' study and investigation provided for in [section 7521\(c\)](#) of this title, or when relevant in any proceeding under this chapter. Witnesses summoned shall be paid the same fees and mileage that are paid witnesses in the courts of the United States. In case of contumacy or refusal to obey a subpoena served upon any person under this subparagraph ³, the district court of the United States for any district in which such person is found or resides or transacts business, upon application by the United States and after notice to such person, shall have jurisdiction to issue an order requiring such person to appear and give testimony before the Administrator to appear and produce papers, books, and documents before the Administrator, or both, and any failure to obey such order of the court may be punished by such court as a contempt thereof.

(b) Judicial review

(1) A petition for review of action of the Administrator in promulgating any national primary or secondary ambient air quality standard, any emission standard or requirement under [section 7412](#) of this title, any standard of performance or requirement under [section 7411](#) of this title, ² any standard under [section 7521](#) of this title (other than a standard required to be prescribed under [section 7521\(b\)\(1\)](#) of this title), any determination under [section 7521\(b\)\(5\)](#) of this title, any control or prohibition under [section 7545](#) of this title, any standard under [section 7571](#) of this title, any rule issued under [section 7413](#), [7419](#), or under [section 7420](#) of this title, or any other nationally applicable regulations promulgated, or final action taken, by the Administrator under this chapter may be filed only in the United States Court of Appeals for the District of Columbia. A petition for review of the Administrator's action in approving or promulgating any implementation plan under [section 7410](#) of this title or [section 7411\(d\)](#) of this title, any order under [section 7411\(j\)](#) of this title, under [section 7412](#) of this title, under [section 7419](#) of this title, or under [section 7420](#) of this title, or his action under [section 1857c-10\(c\)\(2\)\(A\)](#), [\(B\)](#), or [\(C\)](#) of this title (as in effect before August 7, 1977) or under regulations thereunder, or revising

regulations for enhanced monitoring and compliance certification programs under [section 7414\(a\)\(3\)](#) of this title, or any other final action of the Administrator under this chapter (including any denial or disapproval by the Administrator under subchapter I of this chapter) which is locally or regionally applicable may be filed only in the United States Court of Appeals for the appropriate circuit. Notwithstanding the preceding sentence a petition for review of any action referred to in such sentence may be filed only in the United States Court of Appeals for the District of Columbia if such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination. Any petition for review under this subsection shall be filed within sixty days from the date notice of such promulgation, approval, or action appears in the Federal Register, except that if such petition is based solely on grounds arising after such sixtieth day, then any petition for review under this subsection shall be filed within sixty days after such grounds arise. The filing of a petition for reconsideration by the Administrator of any otherwise final rule or action shall not affect the finality of such rule or action for purposes of judicial review nor extend the time within which a petition for judicial review of such rule or action under this section may be filed, and shall not postpone the effectiveness of such rule or action.

(2) Action of the Administrator with respect to which review could have been obtained under paragraph (1) shall not be subject to judicial review in civil or criminal proceedings for enforcement. Where a final decision by the Administrator defers performance of any nondiscretionary statutory action to a later time, any person may challenge the deferral pursuant to paragraph (1).

(c) Additional evidence

In any judicial proceeding in which review is sought of a determination under this chapter required to be made on the record after notice and opportunity for hearing, if any party applies to the court for leave to adduce additional evidence, and shows to the satisfaction of the court that such additional evidence is material and that there were reasonable grounds for the failure to adduce such evidence in the proceeding before the Administrator, the court may order such additional evidence (and evidence in rebuttal thereof) to be taken before the Administrator, in such manner and upon such terms and conditions as to ⁴ the court may deem proper. The Administrator may modify his findings as to the facts, or make new findings, by reason of the additional evidence so taken and he shall file such modified or new findings, and his recommendation, if any, for the modification or setting aside of his original determination, with the return of such additional evidence.

(d) Rulemaking

(1) This subsection applies to--

(A) the promulgation or revision of any national ambient air quality standard under [section 7409](#) of this title,

(B) the promulgation or revision of an implementation plan by the Administrator under [section 7410\(c\)](#) of this title,

(C) the promulgation or revision of any standard of performance under [section 7411](#) of this title, or emission standard or limitation under [section 7412\(d\)](#) of this title, any standard under [section 7412\(f\)](#) of this title, or any regulation under [section 7412\(g\)\(1\)\(D\) and \(F\)](#) of this title, or any regulation under [section 7412\(m\)](#) or (n) of this title,

- (D) the promulgation of any requirement for solid waste combustion under [section 7429](#) of this title,
- (E) the promulgation or revision of any regulation pertaining to any fuel or fuel additive under [section 7545](#) of this title,
- (F) the promulgation or revision of any aircraft emission standard under [section 7571](#) of this title,
- (G) the promulgation or revision of any regulation under subchapter IV-A of this chapter (relating to control of acid deposition),
- (H) promulgation or revision of regulations pertaining to primary nonferrous smelter orders under [section 7419](#) of this title (but not including the granting or denying of any such order),
- (I) promulgation or revision of regulations under subchapter VI of this chapter (relating to stratosphere and ozone protection),
- (J) promulgation or revision of regulations under part C of subchapter I of this chapter (relating to prevention of significant deterioration of air quality and protection of visibility),
- (K) promulgation or revision of regulations under [section 7521](#) of this title and test procedures for new motor vehicles or engines under [section 7525](#) of this title, and the revision of a standard under [section 7521\(a\)\(3\)](#) of this title,
- (L) promulgation or revision of regulations for noncompliance penalties under [section 7420](#) of this title,
- (M) promulgation or revision of any regulations promulgated under [section 7541](#) of this title (relating to warranties and compliance by vehicles in actual use),
- (N) action of the Administrator under [section 7426](#) of this title (relating to interstate pollution abatement),
- (O) the promulgation or revision of any regulation pertaining to consumer and commercial products under [section 7511b\(e\)](#) of this title,
- (P) the promulgation or revision of any regulation pertaining to field citations under [section 7413\(d\)\(3\)](#) of this title,
- (Q) the promulgation or revision of any regulation pertaining to urban buses or the clean-fuel vehicle, clean-fuel fleet, and clean fuel programs under part C of subchapter II of this chapter,
- (R) the promulgation or revision of any regulation pertaining to nonroad engines or nonroad vehicles under [section 7547](#) of this title,

(S) the promulgation or revision of any regulation relating to motor vehicle compliance program fees under [section 7552](#) of this title,

(T) the promulgation or revision of any regulation under subchapter IV-A of this chapter (relating to acid deposition),

(U) the promulgation or revision of any regulation under [section 7511b\(f\)](#) of this title pertaining to marine vessels, and

(V) such other actions as the Administrator may determine.

The provisions of [section 553](#) through [557](#) and [section 706 of Title 5](#) shall not, except as expressly provided in this subsection, apply to actions to which this subsection applies. This subsection shall not apply in the case of any rule or circumstance referred to in subparagraphs (A) or (B) of subsection 553(b) of Title 5.

(2) Not later than the date of proposal of any action to which this subsection applies, the Administrator shall establish a rulemaking docket for such action (hereinafter in this subsection referred to as a “rule”). Whenever a rule applies only within a particular State, a second (identical) docket shall be simultaneously established in the appropriate regional office of the Environmental Protection Agency.

(3) In the case of any rule to which this subsection applies, notice of proposed rulemaking shall be published in the Federal Register, as provided under [section 553\(b\) of Title 5](#), shall be accompanied by a statement of its basis and purpose and shall specify the period available for public comment (hereinafter referred to as the “comment period”). The notice of proposed rulemaking shall also state the docket number, the location or locations of the docket, and the times it will be open to public inspection. The statement of basis and purpose shall include a summary of--

(A) the factual data on which the proposed rule is based;

(B) the methodology used in obtaining the data and in analyzing the data; and

(C) the major legal interpretations and policy considerations underlying the proposed rule.

The statement shall also set forth or summarize and provide a reference to any pertinent findings, recommendations, and comments by the Scientific Review Committee established under [section 7409\(d\)](#) of this title and the National Academy of Sciences, and, if the proposal differs in any important respect from any of these recommendations, an explanation of the reasons for such differences. All data, information, and documents referred to in this paragraph on which the proposed rule relies shall be included in the docket on the date of publication of the proposed rule.

(4)(A) The rulemaking docket required under paragraph (2) shall be open for inspection by the public at reasonable times specified in the notice of proposed rulemaking. Any person may copy documents contained in the docket. The Administrator shall provide copying facilities which may be used at the expense of the person seeking copies, but the Administrator may waive or reduce such expenses in such instances as the public interest requires. Any person may request copies by mail if the person pays the expenses, including personnel costs to do the copying.

(B)(i) Promptly upon receipt by the agency, all written comments and documentary information on the proposed rule received from any person for inclusion in the docket during the comment period shall be placed in the docket. The transcript of public hearings, if any, on the proposed rule shall also be included in the docket promptly upon receipt from the person who transcribed such hearings. All documents which become available after the proposed rule has been published and which the Administrator determines are of central relevance to the rulemaking shall be placed in the docket as soon as possible after their availability.

(ii) The drafts of proposed rules submitted by the Administrator to the Office of Management and Budget for any interagency review process prior to proposal of any such rule, all documents accompanying such drafts, and all written comments thereon by other agencies and all written responses to such written comments by the Administrator shall be placed in the docket no later than the date of proposal of the rule. The drafts of the final rule submitted for such review process prior to promulgation and all such written comments thereon, all documents accompanying such drafts, and written responses thereto shall be placed in the docket no later than the date of promulgation.

(5) In promulgating a rule to which this subsection applies (i) the Administrator shall allow any person to submit written comments, data, or documentary information; (ii) the Administrator shall give interested persons an opportunity for the oral presentation of data, views, or arguments, in addition to an opportunity to make written submissions; (iii) a transcript shall be kept of any oral presentation; and (iv) the Administrator shall keep the record of such proceeding open for thirty days after completion of the proceeding to provide an opportunity for submission of rebuttal and supplementary information.

(6)(A) The promulgated rule shall be accompanied by (i) a statement of basis and purpose like that referred to in paragraph (3) with respect to a proposed rule and (ii) an explanation of the reasons for any major changes in the promulgated rule from the proposed rule.

(B) The promulgated rule shall also be accompanied by a response to each of the significant comments, criticisms, and new data submitted in written or oral presentations during the comment period.

(C) The promulgated rule may not be based (in part or whole) on any information or data which has not been placed in the docket as of the date of such promulgation.

(7)(A) The record for judicial review shall consist exclusively of the material referred to in paragraph (3), clause (i) of paragraph (4)(B), and subparagraphs (A) and (B) of paragraph (6).

(B) Only an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review. If the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed. If the Administrator refuses to convene such a proceeding, such person may seek review of such refusal in the United States court of appeals for the appropriate circuit (as provided in subsection (b)

of this section). Such reconsideration shall not postpone the effectiveness of the rule. The effectiveness of the rule may be stayed during such reconsideration, however, by the Administrator or the court for a period not to exceed three months.

(8) The sole forum for challenging procedural determinations made by the Administrator under this subsection shall be in the United States court of appeals for the appropriate circuit (as provided in subsection (b) of this section) at the time of the substantive review of the rule. No interlocutory appeals shall be permitted with respect to such procedural determinations. In reviewing alleged procedural errors, the court may invalidate the rule only if the errors were so serious and related to matters of such central relevance to the rule that there is a substantial likelihood that the rule would have been significantly changed if such errors had not been made.

(9) In the case of review of any action of the Administrator to which this subsection applies, the court may reverse any such action found to be--

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; or

(D) without observance of procedure required by law, if (i) such failure to observe such procedure is arbitrary or capricious, (ii) the requirement of paragraph (7)(B) has been met, and (iii) the condition of the last sentence of paragraph (8) is met.

(10) Each statutory deadline for promulgation of rules to which this subsection applies which requires promulgation less than six months after date of proposal may be extended to not more than six months after date of proposal by the Administrator upon a determination that such extension is necessary to afford the public, and the agency, adequate opportunity to carry out the purposes of this subsection.

(11) The requirements of this subsection shall take effect with respect to any rule the proposal of which occurs after ninety days after August 7, 1977.

(e) Other methods of judicial review not authorized

Nothing in this chapter shall be construed to authorize judicial review of regulations or orders of the Administrator under this chapter, except as provided in this section.

(f) Costs

In any judicial proceeding under this section, the court may award costs of litigation (including reasonable attorney and expert witness fees) whenever it determines that such award is appropriate.

(g) Stay, injunction, or similar relief in proceedings relating to noncompliance penalties

In any action respecting the promulgation of regulations under [section 7420](#) of this title or the administration or enforcement of [section 7420](#) of this title no court shall grant any stay, injunctive, or similar relief before final judgment by such court in such action.

(h) Public participation

It is the intent of Congress that, consistent with the policy of subchapter II of chapter 5 of Title 5, the Administrator in promulgating any regulation under this chapter, including a regulation subject to a deadline, shall ensure a reasonable period for public participation of at least 30 days, except as otherwise expressly provided in [section 5 7407\(d\)](#), [7502\(a\)](#), [7511\(a\)](#) and (b), and [7512\(a\)](#) and (b) of this title.

CREDIT(S)

(July 14, 1955, c. 360, Title III, § 307, as added [Pub.L. 91-604](#), § 12(a), Dec. 31, 1970, 84 Stat. 1707; amended [Pub.L. 92-157, Title III, § 302\(a\)](#), Nov. 18, 1971, 85 Stat. 464; [Pub.L. 93-319](#), § 6(c), June 22, 1974, 88 Stat. 259; [Pub.L. 95-95, Title III, §§ 303\(d\)](#), 305(a), (c), (f)-(h), Aug. 7, 1977, 91 Stat. 772, 776, 777; [Pub.L. 95-190](#), § 14(a)(79), (80), Nov. 16, 1977, 91 Stat. 1404; [Pub.L. 101-549, Title I, §§ 108\(p\)](#), 110(5), Title III, § 302(g), (h), Title VII, §§ 702(c), 703, 706, 707(h), 710(b), Nov. 15, 1990, 104 Stat. 2469, 2470, 2574, 2681-2684.)

[Notes of Decisions \(350\)](#)

Footnotes

- 1 So in original. Probably should be “this”.
- 2 So in original.
- 3 So in original. Probably should be “subsection.”
- 4 So in original. The word “to” probably should not appear.
- 5 So in original. Probably should be “sections”.

42 U.S.C.A. § 7607, 42 USCA § 7607

Current through P.L. 115-231. Also includes P.L. 115-233 to 115-269. Title 26 current through P.L. 115-277.

REGULATIONS

[Code of Federal Regulations](#)[Title 40. Protection of Environment](#)[Chapter I. Environmental Protection Agency \(Refs & Annos\)](#)[Subchapter C. Air Programs](#)[Part 50. National Primary and Secondary Ambient Air Quality Standards \(Refs & Annos\)](#)

40 C.F.R. Pt. 50, App. N

Appendix N to Part 50—Interpretation of the National Ambient Air Quality Standards for PM_{2.5}

Effective: May 22, 2017

[Currentness](#)

1.0 General

(a) This appendix explains the data handling conventions and computations necessary for determining when the national ambient air quality standards (NAAQS) for PM_{2.5} are met, specifically the primary and secondary annual and 24-hour PM_{2.5} NAAQS specified in [§ 50.7](#), [50.13](#), and [50.18](#). PM_{2.5} is defined, in general terms, as particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers. PM_{2.5} mass concentrations are measured in the ambient air by a Federal Reference Method (FRM) based on appendix L of this part, as applicable, and designated in accordance with part 53 of this chapter; or by a Federal Equivalent Method (FEM) designated in accordance with part 53 of this chapter; or by an Approved Regional Method (ARM) designated in accordance with part 58 of this chapter. Only those FRM, FEM, and ARM measurements that are derived in accordance with part 58 of this chapter (i.e., that are deemed “suitable”) shall be used in comparisons with the PM_{2.5} NAAQS. The data handling and computation procedures to be used to construct annual and 24-hour NAAQS metrics from reported PM_{2.5} mass concentrations, and the associated instructions for comparing these calculated metrics to the levels of the PM_{2.5} NAAQS, are specified in sections 2.0, 3.0, and 4.0 of this appendix.

(b) Decisions to exclude, retain, or make adjustments to the data affected by exceptional events, including natural events, are made according to the requirements and process deadlines specified in [§§ 50.1](#), [50.14](#) and [51.930](#) of this chapter.

(c) The terms used in this appendix are defined as follows:

Annual mean refers to a weighted arithmetic mean, based on quarterly means, as defined in section 4.4 of this appendix.

The Air Quality System (AQS) is EPA's official repository of ambient air data.

Collocated monitors refers to two or more air measurement instruments for the same parameter (e.g., PM_{2.5} mass) operated at the same site location, and whose placement is consistent with [§ 53.1](#) of this chapter. For purposes of considering a combined site record in this appendix, when two or more monitors are operated at the same site, one monitor is designated as the “primary” monitor with any additional monitors designated as “collocated.” It is implicit in these appendix procedures that the primary monitor and collocated monitor(s) are all deemed suitable for the applicable NAAQS comparison; however, it is not a requirement that the primary and monitors utilize the same specific sampling and analysis method.

Combined site data record is the data set used for performing calculations in appendix N. It represents data for the primary monitors augmented with data from collocated monitors according to the procedure specified in section 3.0(d) of this appendix.

Creditable samples are daily values in the combined site record that are given credit for data completeness. The number of creditable samples (cn) for a given year also governs which value in the sorted series of daily values represents the 98th percentile for that year. Creditable samples include daily values collected on scheduled sampling days and valid make-up samples taken for missed or invalidated samples on scheduled sampling days.

Daily values refer to the 24-hour average concentrations of PM_{2.5} mass measured (or averaged from hourly measurements in AQS) from midnight to midnight (local standard time) from suitable monitors.

Data substitution tests are diagnostic evaluations performed on an annual PM_{2.5} NAAQS design value (DV) or a 24-hour PM_{2.5} NAAQS DV to determine if those metrics, which are judged to be based on incomplete data in accordance with 4.1(b) or 4.2(b) of this appendix shall nevertheless be deemed valid for NAAQS comparisons, or alternatively, shall still be considered incomplete and not valid for NAAQS comparisons. There are two data substitution tests, the “minimum quarterly value” test and the “maximum quarterly value” test. Design values (DVs) are the 3-year average NAAQS metrics that are compared to the NAAQS levels to determine when a monitoring site meets or does not meet the NAAQS, calculated as shown in section 4. There are two separate DVs specified in this appendix:

- (1) The 3-year average of PM_{2.5} annual mean mass concentrations for each eligible monitoring site is referred to as the “annual PM_{2.5} NAAQS DV”.
- (2) The 3-year average of annual 98th percentile 24-hour average PM_{2.5} mass concentration values recorded at each eligible monitoring site is referred to as the “24-hour (or daily) PM_{2.5} NAAQS DV”.

Eligible sites are monitoring stations that meet the criteria specified in § 58.11 and § 58.30 of this chapter, and thus are approved for comparison to the annual PM_{2.5} NAAQS. For the 24-hour PM_{2.5} NAAQS, all site locations that meet the criteria specified in § 58.11 are approved (i.e., eligible) for NAAQS comparisons.

Extra samples are non-creditable samples. They are daily values that do not occur on scheduled sampling days and that cannot be used as make-up samples for missed or invalidated scheduled samples. Extra samples are used in mean calculations and are included in the series of all daily values subject to selection as a 98th percentile value, but are not used to determine which value in the sorted list represents the 98th percentile.

Make-up samples are samples collected to take the place of missed or invalidated required scheduled samples. Make-up samples can be made by either the primary or the collocated monitor. Make-up samples are either taken before the next required sampling day or exactly one week after the missed (or voided) sampling day.

The maximum quarterly value data substitution test substitutes actual “high” reported daily PM_{2.5} values from the same site (specifically, the highest reported non-excluded quarterly value(s) (year non-specific) contained in the combined site record for the evaluated 3-year period) for missing daily values.

The minimum quarterly value data substitution test substitutes actual “low” reported daily PM_{2.5} values from the same site (specifically, the lowest reported quarterly value(s) (year non-specific) contained in the combined site record for the evaluated 3-year period) for missing daily values.

98th percentile is the smallest daily value out of a year of PM_{2.5} mass monitoring data below which no more than 98 percent of all daily values fall using the ranking and selection method specified in section 4.5(a) of this appendix.

Primary monitors are suitable monitors designated by a state or local agency in their annual network plan (and in AQS) as the default data source for creating a combined site record for purposes of NAAQS comparisons. If there is only one suitable monitor at a particular site location, then it is presumed to be a primary monitor.

Quarter refers to a calendar quarter (e.g., January through March).

Quarterly data capture rate is the percentage of scheduled samples in a calendar quarter that have corresponding valid reported sample values. Quarterly data capture rates are specifically calculated as the number of creditable samples for the quarter divided by the number of scheduled samples for the quarter, the result then multiplied by 100 and rounded to the nearest integer.

Scheduled PM_{2.5} samples refers to those reported daily values which are consistent with the required sampling frequency (per § 58.12 of this chapter) for the primary monitor, or those that meet the special exception noted in section 3.0(e) of this appendix.

Seasonal sampling is the practice of collecting data at a reduced frequency during a season of expected low concentrations.

Suitable monitors are instruments that use sampling and analysis methods approved for NAAQS comparisons. For the annual and 24-hour PM_{2.5} NAAQS, suitable monitors include all FRMs, and all FEMs/ARMs except those specific continuous FEMs/ARMs disqualified by a particular monitoring agency network in accordance with § 58.10(b)(13) and approved by the EPA Regional Administrator per § 58.11(e) of this chapter.

Test design values (TDV) are numerical values that used in the data substitution tests described in sections 4.1(c)(i), 4.1(c)(ii) and 4.2(c)(i) of this appendix to determine if the PM_{2.5} NAAQS DV with incomplete data are judged to be valid for NAAQS comparisons. There are two TDVs: TDV_{min} to determine if the NAAQS is not met and is used in the “minimum quarterly value” data substitution test and TDV_{max} to determine if the NAAQS is met and is used in the “maximum quarterly value” data substitution test. These TDV's are derived by substituting historically low or historically high daily concentration values for missing data in an incomplete year(s).

Year refers to a calendar year.

2.0 Monitoring Considerations

- (a) Section 58.30 of this chapter provides special considerations for data comparisons to the annual PM_{2.5} NAAQS.
- (b) Monitors meeting the network technical requirements detailed in § 58.11 of this chapter are suitable for comparison with the NAAQS for PM_{2.5}.
- (c) Section 58.12 of this chapter specifies the required minimum frequency of sampling for PM_{2.5}. Exceptions to the specified sampling frequencies, such as seasonal sampling, are subject to the approval of the EPA Regional Administrator and must be documented in the state or local agency Annual Monitoring Network Plan as required in § 58.10 of this chapter and also in AQS.

3.0 Requirements for Data Use and Data Reporting for Comparisons With the NAAQS for PM_{2.5}

(a) Except as otherwise provided in this appendix, all valid FRM/FEM/ARM PM_{2.5} mass concentration data produced by suitable monitors that are required to be submitted to AQS, or otherwise available to EPA, meeting the requirements of part 58 of this chapter including appendices A, C, and E shall be used in the DV calculations. Generally, EPA will only use such data if they have been certified by the reporting organization (as prescribed by § 58.15 of this chapter); however, data not certified by the reporting organization can nevertheless be used, if the deadline for certification has passed and EPA judges the data to be complete and accurate.

(b) PM_{2.5} mass concentration data (typically collected hourly for continuous instruments and daily for filter-based instruments) shall be reported to AQS in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) to at least one decimal place. If concentrations are reported to one decimal place, additional digits to the right of the tenths decimal place shall be truncated. If concentrations are reported to AQS with more than one decimal place, AQS will truncate the value to one decimal place for NAAQS usage (i.e., for implementing the procedures in this appendix). In situations where suitable PM_{2.5} data are available to EPA but not reported to AQS, the same truncation protocol shall be applied to that data. In situations where PM_{2.5} mass data are submitted to AQS, or are otherwise available, with less precision than specified above, these data shall nevertheless still be deemed appropriate for NAAQS usage.

(c) Twenty-four-hour average concentrations will be computed in AQS from submitted hourly PM_{2.5} concentration data for each corresponding day of the year and the result will be stored in the first, or start, hour (i.e., midnight, hour '0') of the 24-hour period. A 24-hour average concentration shall be considered valid if at least 75 percent of the hourly averages (i.e., 18 hourly values) for the 24-hour period are available. In the event that less than all 24 hourly average concentrations are available (i.e., less than 24, but at least 18), the 24-hour average concentration shall be computed on the basis of the hours available using the number of available hours within the 24-hour period as the divisor (e.g., 19, if 19 hourly values are available). Twenty-four-hour periods with seven or more missing hours shall also be considered valid if, after substituting zero for all missing hourly concentrations, the resulting 24-hour average daily value is greater than the level of the 24-hour PM_{2.5} NAAQS (i.e., greater than or equal to $35.5 \mu\text{g}/\text{m}^3$). Twenty-four hour average PM_{2.5} mass concentrations that are averaged in AQS from hourly values will be truncated to one decimal place, consistent with the data handling procedure for the reported hourly (and also 24-hour filter-based) data.

(d) All calculations shown in this appendix shall be implemented on a site-level basis. Site level concentration data shall be processed as follows:

(1) The default dataset for PM_{2.5} mass concentrations for a site shall consist of the measured concentrations recorded from the designated primary monitor(s). All daily values produced by the primary monitor are considered part of the site record; this includes all creditable samples and all extra samples.

(2) Data for the primary monitors shall be augmented as much as possible with data from collocated monitors. If a valid daily value is not produced by the primary monitor for a particular day (scheduled or otherwise), but a value is available from a collocated monitor, then that collocated value shall be considered part of the combined site data record. If more than one collocated daily value is available, the average of those valid collocated values shall be used as the daily value. The data record resulting from this procedure is referred to as the "combined site data record."

(e) All daily values in a combined site data record are used in the calculations specified in this appendix; however, not all daily values are given credit towards data completeness requirements. Only creditable samples are given credit for data completeness. Creditable samples include daily values in the combined site record that are collected on scheduled sampling days and valid make-up samples taken for missed or invalidated samples on scheduled sampling days. Days are considered scheduled according to the required sampling frequency of the designated primary monitor with one exception. The exception is, if a collocated continuous FEM/ARM monitor has a more intensive sampling frequency

than the primary FRM monitor, then samples contributed to the combined site record from that continuous FEM/ARM monitor are always considered scheduled and, hence, also creditable. Daily values in the combined site data record that are reported for nonscheduled days, but that are not valid make-up samples are referred to as extra samples.

4.0 Comparisons With the Annual and 24-Hour PM_{2.5} NAAQS

4.1 Annual PM_{2.5} NAAQS

(a) The primary annual PM_{2.5} NAAQS is met when the annual PM_{2.5} NAAQS DV is less than or equal to 12.0 µg/m³ at each eligible monitoring site. The secondary annual PM_{2.5} NAAQS is met when the annual PM_{2.5} NAAQS DV is less than or equal to 15.0 µg/m³ at each eligible monitoring site.

(b) Three years of valid annual means are required to produce a valid annual PM_{2.5} NAAQS DV. A year meets data completeness requirements when quarterly data capture rates for all four quarters are at least 75 percent. However, years with at least 11 creditable samples in each quarter shall also be considered valid if the resulting annual mean or resulting annual PM_{2.5} NAAQS DV (rounded according to the conventions of section 4.3 of this appendix) is greater than the level of the applicable primary or secondary annual PM_{2.5} NAAQS. Furthermore, where the explicit 75 percent data capture and/or 11 sample minimum requirements are not met, the 3-year annual PM_{2.5} NAAQS DV shall still be considered valid if it passes at least one of the two data substitution tests stipulated below.

(c) In the case of one, two, or three years that do not meet the completeness requirements of [section 4.1\(b\)](#) of this appendix and thus would normally not be useable for the calculation of a valid annual PM_{2.5} NAAQS DV, the annual PM_{2.5} NAAQS DV shall nevertheless be considered valid if one of the test conditions specified in [sections 4.1\(c\)\(i\) and 4.1\(c\)\(ii\)](#) of this appendix is met.

(i) An annual PM_{2.5} NAAQS DV that is above the level of the NAAQS can be validated if it passes the minimum quarterly value data substitution test. This type of data substitution is permitted only if there are at least 30 days across the three quarters of the three years under consideration (e.g., collectively, quarter 1 of year 1, quarter 1 of year 2 and quarter 1 of year 3) from which to select the quarter-specific low value. Data substitution will be performed in all quarter periods that have less than 11 creditable samples.

Procedure: Identify for each deficient quarter (i.e., those with less than 11 creditable samples) the lowest reported daily value for that quarter, looking across those three months of all three years under consideration. If after substituting the lowest reported daily value for a quarter for (11- *cn*) daily values in the matching deficient quarter(s) (i.e., to bring the creditable number for those quarters up to 11), the procedure yields a recalculated annual PM_{2.5} NAAQS test DV (TDV_{min}) that is greater than the level of the standard, then the annual PM_{2.5} NAAQS DV is deemed to have passed the diagnostic test and is valid, and the annual PM_{2.5} NAAQS is deemed to have been violated in that 3-year period.

(ii) An annual PM_{2.5} NAAQS DV that is equal to or below the level of the NAAQS can be validated if it passes the maximum quarterly value data substitution test. This type of data substitution is permitted only if there is at least 50 percent data capture in each quarter that is deficient of 75 percent data capture in each of the three years under consideration. Data substitution will be performed in all quarter periods that have less than 75 percent data capture but at least 50 percent data capture. If any quarter has less than 50 percent data capture then this substitution test cannot be used.

Procedure: Identify for each deficient quarter (i.e., those with less than 75 percent but at least 50 percent data capture) the highest reported daily value for that quarter, excluding state-flagged data affected by exceptional events which have been

approved for exclusion by the Administrator, looking across those three quarters of all three years under consideration. If after substituting the highest reported daily $PM_{2.5}$ value for a quarter for all missing daily data in the matching deficient quarter(s) (i.e., to make those quarters 100 percent complete), the procedure yields a recalculated annual $PM_{2.5}$ NAAQS test DV (TDV_{max}) that is less than or equal to the level of the standard, then the annual $PM_{2.5}$ NAAQS DV is deemed to have passed the diagnostic test and is valid, and the annual $PM_{2.5}$ NAAQS is deemed to have been met in that 3-year period.

(d) An annual $PM_{2.5}$ NAAQS DV based on data that do not meet the completeness criteria stated in 4(b) and also do not satisfy the test conditions specified in section 4(c), may also be considered valid with the approval of, or at the initiative of, the EPA Administrator, who may consider factors such as monitoring site closures/moves, monitoring diligence, the consistency and levels of the daily values that are available, and nearby concentrations in determining whether to use such data.

(e) The equations for calculating the annual $PM_{2.5}$ NAAQS DVs are given in section 4.4 of this appendix.

4.2 Twenty-four-hour $PM_{2.5}$ NAAQS

(a) The primary and secondary 24-hour $PM_{2.5}$ NAAQS are met when the 24-hour $PM_{2.5}$ NAAQS DV at each eligible monitoring site is less than or equal to $35 \mu\text{g}/\text{m}^3$.

(b) Three years of valid annual $PM_{2.5}$ 98th percentile mass concentrations are required to produce a valid 24-hour $PM_{2.5}$ NAAQS DV. A year meets data completeness requirements when quarterly data capture rates for all four quarters are at least 75 percent. However, years shall be considered valid, notwithstanding quarters with less than complete data (even quarters with less than 11 creditable samples, but at least one creditable sample must be present for the year), if the resulting annual 98th percentile value or resulting 24-hour NAAQS DV (rounded according to the conventions of section 4.3 of this appendix) is greater than the level of the standard. Furthermore, where the explicit 75 percent quarterly data capture requirement is not met, the 24-hour $PM_{2.5}$ NAAQS DV shall still be considered valid if it passes the maximum quarterly value data substitution test.

(c) In the case of one, two, or three years that do not meet the completeness requirements of section 4.2(b) of this appendix and thus would normally not be useable for the calculation of a valid 24-hour $PM_{2.5}$ NAAQS DV, the 24-hour $PM_{2.5}$ NAAQS DV shall nevertheless be considered valid if the test conditions specified in section 4.2(c)(i) of this appendix are met.

(i) A $PM_{2.5}$ 24-hour mass NAAQS DV that is equal to or below the level of the NAAQS can be validated if it passes the maximum quarterly value data substitution test. This type of data substitution is permitted only if there is at least 50 percent data capture in each quarter that is deficient of 75 percent data capture in each of the three years under consideration. Data substitution will be performed in all quarters that have less than 75 percent data capture but at least 50 percent data capture. If any quarter has less than 50 percent data capture then this substitution test cannot be used.

Procedure: Identify for each deficient quarter (i.e., those with less than 75 percent but at least 50 percent data capture) the highest reported daily $PM_{2.5}$ value for that quarter, excluding state-flagged data affected by exceptional events which have been approved for exclusion by the Regional Administrator, looking across those three quarters of all three years under consideration. If, after substituting the highest reported daily maximum $PM_{2.5}$ value for a quarter for all missing daily data in the matching deficient quarter(s) (i.e., to make those quarters 100 percent complete), the procedure yields a recalculated 3-year 24-hour NAAQS test DV (TDV_{max}) less than or equal to the level of the standard, then the 24-

hour PM_{2.5} NAAQS DV is deemed to have passed the diagnostic test and is valid, and the 24-hour PM_{2.5} NAAQS is deemed to have been met in that 3-year period.

(d) A 24-hour PM_{2.5} NAAQS DV based on data that do not meet the completeness criteria stated in [section 4\(b\)](#) of this appendix and also do not satisfy the test conditions specified in [section 4\(c\)](#) of this appendix, may also be considered valid with the approval of, or at the initiative of, the EPA Administrator, who may consider factors such as monitoring site closures/moves, monitoring diligence, the consistency and levels of the daily values that are available, and nearby concentrations in determining whether to use such data.

(e) The procedures and equations for calculating the 24-hour PM_{2.5} NAAQS DVs are given in section 4.5 of this appendix.

4.3 Rounding Conventions. For the purposes of comparing calculated PM_{2.5} NAAQS DVs to the applicable level of the standard, it is necessary to round the final results of the calculations described in sections 4.4 and 4.5 of this appendix. Results for all intermediate calculations shall not be rounded.

(a) Annual PM_{2.5} NAAQS DVs shall be rounded to the nearest tenth of a µg/m³ (decimals x.x5 and greater are rounded up to the next tenth, and any decimal lower than x.x5 is rounded down to the nearest tenth).

(b) Twenty-four-hour PM_{2.5} NAAQS DVs shall be rounded to the nearest 1 µg/m³ (decimals 0.5 and greater are rounded up to the nearest whole number, and any decimal lower than 0.5 is rounded down to the nearest whole number).

4.4 Equations for the Annual PM_{2.5} NAAQS.

(a) An annual mean value for PM_{2.5} is determined by first averaging the daily values of a calendar quarter using equation 1 of this appendix:

Equation 1

$$\bar{X}_{q,y} = \frac{1}{n_q} \sum_{i=1}^{n_q} X_{i,q,y}$$

Where:

X_{#q,y} = the mean for quarter q of the year y;

n_q = the number of daily values in the quarter; and

x_{i q,y} = the ith value in quarter q for year y.

(b) Equation 2 of this appendix is then used to calculate the site annual mean:

Equation 2

$$\bar{X}_y = \frac{1}{n_{Q,y}} \sum_{q=1}^{n_{Q,y}} \bar{X}_{q,y}$$

Where:

$X\#_y$ = the annual mean concentration for year y ($y = 1, 2, \text{ or } 3$);

$n_{Q,y}$ = the number of quarters Q in year y with at least one daily value; and

$X\#_{q,y}$ = the mean for quarter q of year y (result of equation 1).

(c) The annual $PM_{2.5}$ NAAQS DV is calculated using equation 3 of this appendix:

Equation 3

$$\bar{X} = \frac{1}{3} \sum_{y=1}^3 \bar{X}_y$$

Where:

$X\#$ = the annual $PM_{2.5}$ NAAQS DV; and

$X\#_y$ = the annual mean for year y (result of equation 2)

(d) The annual $PM_{2.5}$ NAAQS DV is rounded according to the conventions in section 4.3 of this appendix before comparisons with the levels of the primary and secondary annual $PM_{2.5}$ NAAQS are made.

4.5 Procedures and Equations for the 24–Hour $PM_{2.5}$ NAAQS

(a) When the data for a particular site and year meet the data completeness requirements in section 4.2 of this appendix, calculation of the 98th percentile is accomplished by the steps provided in this subsection. Table 1 of this appendix shall be used to identify annual 98th percentile values.

Identification of annual 98th percentile values using the Table 1 procedure will be based on the creditable number of samples (as described below), rather than on the actual number of samples. Credit will not be granted for extra (non-creditable) samples. Extra samples, however, are candidates for selection as the annual 98th percentile. [The creditable number of samples will determine how deep to go into the data distribution, but all samples (creditable and extra) will be considered when making the percentile assignment.] The annual creditable number of samples is the sum of the four quarterly creditable number of samples.

Procedure: Sort all the daily values from a particular site and year by descending value. (For example: (x[1], x[2], x[3], * * *, x[n]). In this case, x[1] is the largest number and x[n] is the smallest value.) The 98th percentile value is determined from this sorted series of daily values which is ordered from the highest to the lowest number. Using the left column of Table 1, determine the appropriate range for the annual creditable number of samples for year y (cn_y) (e.g., for 120 creditable samples per year, the appropriate range would be 101 to 150). The corresponding “n” value in the right column identifies the rank of the annual 98th percentile value in the descending sorted list of site specific daily values for year y (e.g., for the range of 101 to 150, n would be 3). Thus, P_{0.98, y} = the nth largest value (e.g., for the range of 101 to 150, the 98th percentile value would be the third highest value in the sorted series of daily values.

Table 1

Annual number of creditable samples for year y (cn _y)	The 98th percentile for year y (P _{0.98,y}), is the nth maximum 24-hour average value for the year where n is the listed number
1 to 50	1
51 to 100	2
101 to 150	3
151 to 200	4
201 to 250	5
251 to 300	6
301 to 350	7
351 to 366	8

(b) The 24-hour PM_{2.5} NAAQS DV is then calculated by averaging the annual 98th percentiles using equation 4 of this appendix: P_{0.98,y}

Equation 4

$$\bar{P}_{0.98} = \frac{1}{3} \sum_{y=1}^3 P_{0.98,y}$$

Where:

$P_{\#0.98}$ = the 24-hour $PM_{2.5}$ NAAQS DV; and

$P_{0.98, y}$ = the annual 98th percentile for year y

(c) The 24-hour $PM_{2.5}$ NAAQS DV is rounded according to the conventions in section 4.3 of this appendix before a comparison with the level of the primary and secondary 24-hour NAAQS are made.

Credits

[[62 FR 38755](#), July 18, 1997; [69 FR 45595](#), July 30, 2004; [71 FR 61227](#), Oct. 17, 2006; [73 FR 1502](#), Jan. 9, 2008; [78 FR 3277](#), Jan. 15, 2013; [81 FR 53008](#), Aug. 11, 2016; [81 FR 66823](#), Sept. 29, 2016; [82 FR 14327](#), March 20, 2017]

AUTHORITY: [42 U.S.C. 7401](#), et seq.

Current through November 2, 2018; 83 FR 55110.

End of Document

© 2018 Thomson Reuters. No claim to original U.S. Government Works.

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter C. Air Programs

Part 50. National Primary and Secondary Ambient Air Quality Standards (Refs & Annos)

40 C.F.R. § 50.18

§ 50.18 National primary ambient air quality standards for PM_{2.5}.

Effective: March 18, 2013

[Currentness](#)

(a) The national primary ambient air quality standards for PM_{2.5} are 12.0 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) annual arithmetic mean concentration and 35 $\mu\text{g}/\text{m}^3$ 24-hour average concentration measured in the ambient air as PM_{2.5} (particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers) by either:

(1) A reference method based on appendix L to this part and designated in accordance with part 53 of this chapter; or

(2) An equivalent method designated in accordance with part 53 of this chapter.

(b) The primary annual PM_{2.5} standard is met when the annual arithmetic mean concentration, as determined in accordance with appendix N of this part, is less than or equal to 12.0 $\mu\text{g}/\text{m}^3$.

(c) The primary 24-hour PM_{2.5} standard is met when the 98th percentile 24-hour concentration, as determined in accordance with appendix N of this part, is less than or equal to 35 $\mu\text{g}/\text{m}^3$.

Credits

[78 FR 3277, Jan. 15, 2013]

AUTHORITY: 42 U.S.C. 7401, et seq.

Current through November 2, 2018; 83 FR 55110.

End of Document

© 2018 Thomson Reuters. No claim to original U.S. Government Works.

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter C. Air Programs

Part 50. National Primary and Secondary Ambient Air Quality Standards (Refs & Annos)

40 C.F.R. § 50.19

§ 50.19 National primary and secondary ambient air quality standards for ozone.

Effective: December 28, 2015

[Currentness](#)

(a) The level of the national 8-hour primary ambient air quality standard for ozone (O₃) is 0.070 parts per million (ppm), daily maximum 8-hour average, measured by a reference method based on appendix D to this part and designated in accordance with part 53 of this chapter or an equivalent method designated in accordance with part 53 of this chapter.

(b) The 8-hour primary O₃ ambient air quality standard is met at an ambient air quality monitoring site when the 3-year average of the annual fourth-highest daily maximum 8-hour average O₃ concentration is less than or equal to 0.070 ppm, as determined in accordance with appendix U to this part.

(c) The level of the national secondary ambient air quality standard for O₃ is 0.070 ppm, daily maximum 8-hour average, measured by a reference method based on appendix D to this part and designated in accordance with part 53 of this chapter or an equivalent method designated in accordance with part 53 of this chapter.

(d) The 8-hour secondary O₃ ambient air quality standard is met at an ambient air quality monitoring site when the 3-year average of the annual fourth-highest daily maximum 8-hour average O₃ concentration is less than or equal to 0.070 ppm, as determined in accordance with appendix U to this part.

Credits

[[80 FR 65452](#), Oct. 26, 2015]

AUTHORITY: [42 U.S.C. 7401](#), et seq.

Current through November 2, 2018; [83 FR 55110](#).

End of Document

© 2018 Thomson Reuters. No claim to original U.S. Government Works.

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter C. Air Programs

Part 51. Requirements for Preparation, Adoption, and Submittal of Implementation Plans (Refs & Annos)

Subpart I. Review of New Sources and Modifications (Refs & Annos)

40 C.F.R. § 51.165

§ 51.165 Permit requirements.

Effective: November 17, 2016

Currentness

(a) State Implementation Plan and Tribal Implementation Plan provisions satisfying sections 172(c)(5) and 173 of the Act shall meet the following conditions:

(1) All such plans shall use the specific definitions. Deviations from the following wording will be approved only if the State specifically demonstrates that the submitted definition is more stringent, or at least as stringent, in all respects as the corresponding definition below:

(i) Stationary source means any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant.

(ii)(A) Building, structure, facility, or installation means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant emitting activities shall be considered as part of the same industrial grouping if they belong to the same Major Group (i.e., which have the same two-digit code) as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office stock numbers 4101-0065 and 003-005-00176-0, respectively).

(B) The plan may include the following provision: Notwithstanding the provisions of paragraph (a)(1)(ii)(A) of this section, building, structure, facility, or installation means, for onshore activities under Standard Industrial Classification (SIC) Major Group 13: Oil and Gas Extraction, all of the pollutant-emitting activities included in Major Group 13 that are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant emitting activities shall be considered adjacent if they are located on the same surface site; or if they are located on surface sites that are located within ¼ mile of one another (measured from the center of the equipment on the surface site) and they share equipment. Shared equipment includes, but is not limited to, produced fluids storage tanks, phase separators, natural gas dehydrators or emissions control devices. Surface site, as used in this paragraph (a)(1)(ii)(B), has the same meaning as in 40 CFR 63.761.

(iii) Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.

(iv)(A) Major stationary source means:

(1) Any stationary source of air pollutants that emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant (as defined in paragraph (a)(1)(xxxvii) of this section), except that lower emissions thresholds shall apply in areas subject to subpart 2, subpart 3, or subpart 4 of part D, title I of the Act, according to paragraphs (a)(1)(iv)(A)(1)(i) through (viii) of this section.

(i) 50 tons per year of Volatile organic compounds in any serious ozone nonattainment area.

(ii) 50 tons per year of Volatile organic compounds in an area within an ozone transport region, except for any severe or extreme ozone nonattainment area.

(iii) 25 tons per year of Volatile organic compounds in any severe ozone nonattainment area.

(iv) 10 tons per year of Volatile organic compounds in any extreme ozone nonattainment area.

(v) 50 tons per year of Carbon monoxide in any serious nonattainment area for carbon monoxide, where stationary sources contribute significantly to Carbon monoxide levels in the area (as determined under rules issued by the Administrator).

(vi) 70 tons per year of PM_{10} in any serious nonattainment area for PM_{10} .

(vii) 70 tons per year of $PM_{2.5}$ in any serious nonattainment area for $PM_{2.5}$.

(viii) 70 tons per year of any individual precursor for $PM_{2.5}$ (as defined in paragraph (a)(1)(xxxvii) of this section), in any serious nonattainment area for $PM_{2.5}$.

(2) For the purposes of applying the requirements of paragraph (a)(8) of this section to stationary sources of nitrogen oxides located in an ozone nonattainment area or in an ozone transport region, any stationary source which emits, or has the potential to emit, 100 tons per year or more of nitrogen oxides emissions, except that the emission thresholds in paragraphs (a)(1)(iv)(A)(2)(i) through (vi) of this section shall apply in areas subject to subpart 2 of part D, title I of the Act.

(i) 100 tons per year or more of nitrogen oxides in any ozone nonattainment area classified as marginal or moderate.

(ii) 100 tons per year or more of nitrogen oxides in any ozone nonattainment area classified as a transitional, submarginal, or incomplete or no data area, when such area is located in an ozone transport region.

(iii) 100 tons per year or more of nitrogen oxides in any area designated under section 107(d) of the Act as attainment or unclassifiable for ozone that is located in an ozone transport region.

(iv) 50 tons per year or more of nitrogen oxides in any serious nonattainment area for ozone.

(v) 25 tons per year or more of nitrogen oxides in any severe nonattainment area for ozone.

(vi) 10 tons per year or more of nitrogen oxides in any extreme nonattainment area for ozone; or

(3) Any physical change that would occur at a stationary source not qualifying under paragraphs (a)(1)(iv) (A)(1) or (2) of this section as a major stationary source, if the change would constitute a major stationary source by itself.

(B) A major stationary source that is major for volatile organic compounds shall be considered major for ozone

(C) The fugitive emissions of a stationary source shall not be included in determining for any of the purposes of this paragraph whether it is a major stationary source, unless the source belongs to one of the following categories of stationary sources:

(1) Coal cleaning plants (with thermal dryers);

(2) Kraft pulp mills;

(3) Portland cement plants;

(4) Primary zinc smelters;

(5) Iron and steel mills;

(6) Primary aluminum ore reduction plants;

- (7) Primary copper smelters;
- (8) Municipal incinerators capable of charging more than 250 tons of refuse per day;
- (9) Hydrofluoric, sulfuric, or nitric acid plants;
- (10) Petroleum refineries;
- (11) Lime plants;
- (12) Phosphate rock processing plants;
- (13) Coke oven batteries;
- (14) Sulfur recovery plants;
- (15) Carbon black plants (furnace process);
- (16) Primary lead smelters;
- (17) Fuel conversion plants;
- (18) Sintering plants;
- (19) Secondary metal production plants;
- (20) Chemical process plants—The term chemical processing plant shall not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140;
- (21) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
- (22) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
- (23) Taconite ore processing plants;

(24) Glass fiber processing plants;

(25) Charcoal production plants;

(26) Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input; and

(27) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act.

(v)(A) Major modification means any physical change in or change in the method of operation of a major stationary source that would result in:

(1) A significant emissions increase of a regulated NSR pollutant (as defined in paragraph (a)(1)(xxxvii) of this section); and

(2) A significant net emissions increase of that pollutant from the major stationary source.

(B) Any significant emissions increase (as defined in paragraph (a)(1)(xxvii) of this section) from any emissions units or net emissions increase (as defined in paragraph (a)(1)(vi) of this section) at a major stationary source that is significant for volatile organic compounds shall be considered significant for ozone.

(C) A physical change or change in the method of operation shall not include:

(1) Routine maintenance, repair and replacement. Routine maintenance, repair and replacement shall include, but not be limited to, any activity(s) that meets the requirements of the equipment replacement provisions contained in paragraph (h) of this section;

Note to paragraph (a)(1)(v)(C)(1): On December 24, 2003, the second sentence of this paragraph (a)(1)(v)(C)(1) is stayed indefinitely by court order. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(2) Use of an alternative fuel or raw material by reason of an order under sections 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;

(3) Use of an alternative fuel by reason of an order or rule section 125 of the Act;

(4) Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste;

(5) Use of an alternative fuel or raw material by a stationary source which;

(i) The source was capable of accommodating before December 21, 1976, unless such change would be prohibited under any federally enforceable permit condition which was established after December 12, 1976 pursuant to [40 CFR 52.21](#) or under regulations approved pursuant to [40 CFR subpart I or § 51.166](#), or

(ii) The source is approved to use under any permit issued under regulations approved pursuant to this section;

(6) An increase in the hours of operation or in the production rate, unless such change is prohibited under any federally enforceable permit condition which was established after December 21, 1976 pursuant to [40 CFR 52.21](#) or regulations approved pursuant to 40 CFR part 51 subpart I or [40 CFR 51.166](#).

(7) Any change in ownership at a stationary source.

(8) [Reserved]

(9) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with:

(i) The State Implementation Plan for the State in which the project is located, and

(ii) Other requirements necessary to attain and maintain the national ambient air quality standard during the project and after it is terminated.

(D) This definition shall not apply with respect to a particular regulated NSR pollutant when the major stationary source is complying with the requirements under paragraph (f) of this section for a PAL for that pollutant. Instead, the definition at paragraph (f)(2)(viii) of this section shall apply.

(E) For the purpose of applying the requirements of (a)(8) of this section to modifications at major stationary sources of nitrogen oxides located in ozone nonattainment areas or in ozone transport regions, whether or not subject to subpart 2, part D, title I of the Act, any significant net emissions increase of nitrogen oxides is considered significant for ozone.

(F) Any physical change in, or change in the method of operation of, a major stationary source of volatile organic compounds that results in any increase in emissions of volatile organic compounds from any discrete operation, emissions unit, or other pollutant emitting activity at the source shall be considered a significant net emissions increase and a major modification for ozone, if the major stationary source is located in an extreme ozone nonattainment area that is subject to subpart 2, part D, title I of the Act.

<Text of subsection (a)(1)(v)(G) stayed effective March 30, 2011.>

(G) Fugitive emissions shall not be included in determining for any of the purposes of this section whether a physical change in or change in the method of operation of a major stationary source is a major modification, unless the source belongs to one of the source categories listed in paragraph (a)(1)(iv)(C) of this section.

(vi)(A) Net emissions increase means, with respect to any regulated NSR pollutant emitted by a major stationary source, the amount by which the sum of the following exceeds zero:

(1) The increase in emissions from a particular physical change or change in the method of operation at a stationary source as calculated pursuant to paragraph (a)(2)(ii) of this section; and

(2) Any other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable. Baseline actual emissions for calculating increases and decreases under this paragraph (a)(1)(vi)(A)(2) shall be determined as provided in paragraph (a)(1)(xxxv) of this section, except that paragraphs (a)(1)(xxxv)(A)(3) and (a)(1)(xxxv)(B)(4) of this section shall not apply.

(B) An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs before the date that the increase from the particular change occurs;

(C) An increase or decrease in actual emissions is creditable only if:

(1) It occurs within a reasonable period to be specified by the reviewing authority; and

(2) The reviewing authority has not relied on it in issuing a permit for the source under regulations approved pursuant to this section, which permit is in effect when the increase in actual emissions from the particular change occurs; and

<Text of subsection (a)(1)(vi)(C)(3) stayed effective March 30, 2011.>

(3) As it pertains to an increase or decrease in fugitive emissions (to the extent quantifiable), it occurs at an emissions unit that is part of one of the source categories listed in paragraph (a)(1)(iv)(C) of this section or it occurs at an emissions unit that is located at a major stationary source that belongs to one of the listed source categories. Fugitive emission increases or decreases are not creditable for those emissions units located at a facility whose primary activity is not represented by one of the source categories listed in paragraph (a)(1)(iv)(C) of this section and that are not, by themselves, part of a listed source category.

(D) An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.

(E) A decrease in actual emissions is creditable only to the extent that:

(1) The old level of actual emission or the old level of allowable emissions whichever is lower, exceeds the new level of actual emissions;

(2) It is enforceable as a practical matter at and after the time that actual construction on the particular change begins; and

(3) The reviewing authority has not relied on it in issuing any permit under regulations approved pursuant to 40 CFR part 51 subpart I or the State has not relied on it in demonstrating attainment or reasonable further progress;

(4) It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change; and

(5) [Reserved]

(F) An increase that results from a physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days.

(G) Paragraph (a)(1)(xii)(B) of this section shall not apply for determining creditable increases and decreases or after a change.

(vii) Emissions unit means any part of a stationary source that emits or would have the potential to emit any regulated NSR pollutant and includes an electric steam generating unit as defined in paragraph (a)(1)(xx) of this section. For purposes of this section, there are two types of emissions units as described in paragraphs (a)(1)(vii) (A) and (B) of this section.

(A) A new emissions unit is any emissions unit which is (or will be) newly constructed and which has existed for less than 2 years from the date such emissions unit first operated.

(B) An existing emissions unit is any emissions unit that does not meet the requirements in paragraph (a)(1)(vii)(A) of this section. A replacement unit, as defined in paragraph (a)(1)(xxi) of this section, is an existing emissions unit.

(viii) Secondary emissions means emissions which would occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source or major modification itself. For the purpose of this section, secondary emissions must be specific, well defined, quantifiable, and impact the same general area as the stationary source or modification which causes the secondary emissions. Secondary emissions include emissions from any offsite support facility which would not be constructed or increase its emissions

except as a result of the construction of operation of the major stationary source of major modification. Secondary emissions do not include any emissions which come directly from a mobile source such as emissions from the tailpipe of a motor vehicle, from a train, or from a vessel.

(ix) Fugitive emissions means those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening.

(x)(A) Significant means, in reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:

Pollutant Emission Rate

Carbon monoxide: 100 tons per year (tpy)

Nitrogen oxides: 40 tpy

Sulfur dioxide: 40 tpy

Ozone: 40 tpy of Volatile organic compounds or Nitrogen oxides

Lead: 0.6 tpy

PM₁₀: 15 tpy

PM_{2.5}: 10 tpy of direct PM_{2.5} emissions; 40 tpy of Sulfur dioxide emissions, 40 tpy of Nitrogen oxide emissions, or 40 tpy of VOC emissions, to the extent that any such pollutant is defined as a precursor for PM_{2.5} in paragraph (a)(1)(xxxvii) of this section.

(B) Notwithstanding the significant emissions rate for ozone in paragraph (a)(1)(x)(A) of this section, significant means, in reference to an emissions increase or a net emissions increase, any increase in actual emissions of volatile organic compounds that would result from any physical change in, or change in the method of operation of, a major stationary source locating in a serious or severe ozone nonattainment area that is subject to subpart 2, part D, title I of the Act, if such emissions increase of volatile organic compounds exceeds 25 tons per year.

(C) For the purposes of applying the requirements of paragraph (a)(8) of this section to modifications at major stationary sources of nitrogen oxides located in an ozone nonattainment area or in an ozone transport region, the significant emission rates and other requirements for volatile organic compounds in paragraphs (a)(1)(x)(A), (B), and (E) of this section shall apply to nitrogen oxides emissions.

(D) Notwithstanding the significant emissions rate for carbon monoxide under paragraph (a)(1)(x)(A) of this section, significant means, in reference to an emissions increase or a net emissions increase, any increase in actual emissions of carbon monoxide that would result from any physical change in, or change in the method of operation of, a major stationary source in a serious nonattainment area for carbon monoxide if such increase equals or exceeds 50 tons per year, provided the Administrator has determined that stationary sources contribute significantly to carbon monoxide levels in that area.

(E) Notwithstanding the significant emissions rates for ozone under paragraphs (a)(1)(x)(A) and (B) of this section, any increase in actual emissions of volatile organic compounds from any emissions unit at a major stationary source of volatile organic compounds located in an extreme ozone nonattainment area that is subject to subpart 2, part D, title I of the Act shall be considered a significant net emissions increase.

(F) For the purposes of applying the requirements of paragraph (a)(13) of this section to modifications at existing major stationary sources of Ammonia located in a PM_{2.5} nonattainment area, if the plan requires that the control requirements of this section apply to major stationary sources and major modifications of Ammonia as a regulated NSR pollutant (as a PM_{2.5} precursor), the plan shall also define “significant” for Ammonia for that area, subject to the approval of the Administrator.

(xi) Allowable emissions means the emissions rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to federally enforceable limits which restrict the operating rate, or hours of operation, or both) and the most stringent of the following:

(A) The applicable standards set forth in 40 CFR part 60 or 61;

(B) Any applicable State Implementation Plan emissions limitation including those with a future compliance date; or

(C) The emissions rate specified as a federally enforceable permit condition, including those with a future compliance date.

(xii)(A) Actual emissions means the actual rate of emissions of a regulated NSR pollutant from an emissions unit, as determined in accordance with paragraphs (a)(1)(xii)(B) through (D) of this section, except that this definition shall not apply for calculating whether a significant emissions increase has occurred, or for establishing a PAL under paragraph (f) of this section. Instead, paragraphs (a)(1)(xxviii) and (xxxv) of this section shall apply for those purposes.

(B) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date and which is representative of normal source operation. The reviewing authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.

(C) The reviewing authority may presume that source-specific allowable emissions for the unit are equivalent to the actual emissions of the unit.

(D) For any emissions unit that has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date.

(xiii) Lowest achievable emission rate (LAER) means, for any source, the more stringent rate of emissions based on the following:

(A) The most stringent emissions limitation which is contained in the implementation plan of any State for such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or

(B) The most stringent emissions limitation which is achieved in practice by such class or category of stationary sources. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within or stationary source. In no event shall the application of the term permit a proposed new or modified stationary source to emit any pollutant in excess of the amount allowable under an applicable new source standard of performance.

(xiv) Federally enforceable means all limitations and conditions which are enforceable by the Administrator, including those requirements developed pursuant to 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, any permit requirements established pursuant to [40 CFR 52.21](#) or under regulations approved pursuant to 40 CFR part 51, subpart I, including operating permits issued under an EPA-approved program that is incorporated into the State implementation plan and expressly requires adherence to any permit issued under such program.

(xv) Begin actual construction means in general, initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures. With respect to a change in method of operating this term refers to those on-site activities other than preparatory activities which mark the initiation of the change.

(xvi) Commence as applied to construction of a major stationary source or major modification means that the owner or operator has all necessary preconstruction approvals or permits and either has:

(A) Begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time; or

(B) Entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time.

(xvii) Necessary preconstruction approvals or permits means those Federal air quality control laws and regulations and those air quality control laws and regulations which are part of the applicable State Implementation Plan.

(xviii) Construction means any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of an emissions unit) that would result in a change in emissions.

(xix) Volatile organic compounds (VOC) is as defined in § 51.100(s) of this part.

(xx) Electric utility steam generating unit means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

(xxi) Replacement unit means an emissions unit for which all the criteria listed in paragraphs (a)(1)(xxi)(A) through (D) of this section are met. No creditable emission reductions shall be generated from shutting down the existing emissions unit that is replaced.

(A) The emissions unit is a reconstructed unit within the meaning of § 60.15(b)(1) of this chapter, or the emissions unit completely takes the place of an existing emissions unit.

(B) The emissions unit is identical to or functionally equivalent to the replaced emissions unit.

(C) The replacement does not alter the basic design parameters (as discussed in paragraph (h)(2) of this section) of the process unit.

(D) The replaced emissions unit is permanently removed from the major stationary source, otherwise permanently disabled, or permanently barred from operation by a permit that is enforceable as a practical matter. If the replaced emissions unit is brought back into operation, it shall constitute a new emissions unit.

(xxii) Temporary clean coal technology demonstration project means a clean coal technology demonstration project that is operated for a period of 5 years or less, and which complies with the State Implementation Plan for the State in which the project is located and other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.

(xxiii) Clean coal technology means any technology, including technologies applied at the precombustion, combustion, or post combustion stage, at a new or existing facility which will achieve significant reductions in air emissions of sulfur dioxide or oxides of nitrogen associated with the utilization of coal in the generation of electricity, or process steam which was not in widespread use as of November 15, 1990.

(xxiv) Clean coal technology demonstration project means a project using funds appropriated under the heading "Department of Energy–Clean Coal Technology," up to a total amount of \$2,500,000,000 for commercial demonstration of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency. The Federal contribution for a qualifying project shall be at least 20 percent of the total cost of the demonstration project.

(xxv) [Reserved]

(xxvi) Pollution prevention means any activity that through process changes, product reformulation or redesign, or substitution of less polluting raw materials, eliminates or reduces the release of air pollutants (including fugitive emissions) and other pollutants to the environment prior to recycling, treatment, or disposal; it does not mean recycling (other than certain “in-process recycling” practices), energy recovery, treatment, or disposal.

(xxvii) Significant emissions increase means, for a regulated NSR pollutant, an increase in emissions that is significant (as defined in paragraph (a)(1)(x) of this section) for that pollutant.

(xxviii)(A) Projected actual emissions means, the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one of the 5 years (12-month period) following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit of that regulated NSR pollutant and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the major stationary source.

(B) In determining the projected actual emissions under paragraph (a)(1)(xxviii)(A) of this section before beginning actual construction, the owner or operator of the major stationary source:

(1) Shall consider all relevant information, including but not limited to, historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the State or Federal regulatory authorities, and compliance plans under the approved plan; and

(2) Shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions; and

(3) Shall exclude, in calculating any increase in emissions that results from the particular project, that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions under paragraph (a)(1)(xxxv) of this section and that are also unrelated to the particular project, including any increased utilization due to product demand growth; or,

(4) In lieu of using the method set out in paragraphs (a)(1)(xxviii)(B)(1) through (3) of this section, may elect to use the emissions unit's potential to emit, in tons per year, as defined under paragraph (a)(1)(iii) of this section.

(xxix) [Reserved]

(xxx) Nonattainment major new source review (NSR) program means a major source preconstruction permit program that has been approved by the Administrator and incorporated into the plan to implement the requirements of this section, or a program that implements part 51, appendix S, Sections I through VI of this chapter. Any permit issued under such a program is a major NSR permit.

(xxxi) Continuous emissions monitoring system (CEMS) means all of the equipment that may be required to meet the data acquisition and availability requirements of this section, to sample, condition (if applicable), analyze, and provide a record of emissions on a continuous basis.

(xxxii) Predictive emissions monitoring system (PEMS) means all of the equipment necessary to monitor process and control device operational parameters (for example, control device secondary voltages and electric currents) and other information (for example, gas flow rate, O₂ or CO₂ concentrations), and calculate and record the mass emissions rate (for example, lb/hr) on a continuous basis.

(xxxiii) Continuous parameter monitoring system (CPMS) means all of the equipment necessary to meet the data acquisition and availability requirements of this section, to monitor process and control device operational parameters (for example, control device secondary voltages and electric currents) and other information (for example, gas flow rate, O₂ or CO₂ concentrations), and to record average operational parameter value(s) on a continuous basis.

(xxxiv) Continuous emissions rate monitoring system (CERMS) means the total equipment required for the determination and recording of the pollutant mass emissions rate (in terms of mass per unit of time).

(xxxv) Baseline actual emissions means the rate of emissions, in tons per year, of a regulated NSR pollutant, as determined in accordance with paragraphs (a)(1)(xxxv)(A) through (D) of this section.

(A) For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding when the owner or operator begins actual construction of the project. The reviewing authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

(1) The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions.

(2) The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above any emission limitation that was legally enforceable during the consecutive 24-month period.

(3) For a regulated NSR pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. A different consecutive 24-month period can be used for each regulated NSR pollutant.

(4) The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by paragraph (a)(1)(xxxv)(A)(2) of this section.

(B) For an existing emissions unit (other than an electric utility steam generating unit), baseline actual emissions means the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received by the reviewing authority for a permit required either under this section or under a plan approved by the Administrator, whichever is earlier, except that the 10-year period shall not include any period earlier than November 15, 1990.

(1) The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions.

(2) The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive 24-month period.

(3) The average rate shall be adjusted downward to exclude any emissions that would have exceeded an emission limitation with which the major stationary source must currently comply, had such major stationary source been required to comply with such limitations during the consecutive 24-month period. However, if an emission limitation is part of a maximum achievable control technology standard that the Administrator proposed or promulgated under part 63 of this chapter, the baseline actual emissions need only be adjusted if the State has taken credit for such emissions reductions in an attainment demonstration or maintenance plan consistent with the requirements of paragraph (a)(3)(ii)(G) of this section.

(4) For a regulated NSR pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. A different consecutive 24-month period can be used For each regulated NSR pollutant.

(5) The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by paragraphs (a)(1)(xxxv)(B)(2) and (3) of this section.

(C) For a new emissions unit, the baseline actual emissions for purposes of determining the emissions increase that will result from the initial construction and operation of such unit shall equal zero; and thereafter, for all other purposes, shall equal the unit's potential to emit.

(D) For a PAL for a major stationary source, the baseline actual emissions shall be calculated for existing electric utility steam generating units in accordance with the procedures contained in paragraph (a)(1)(xxxv)

(A) of this section, for other existing emissions units in accordance with the procedures contained in paragraph

(a)(1)(xxxv)(B) of this section, and for a new emissions unit in accordance with the procedures contained in paragraph (a)(1)(xxxv)(C) of this section.

(xxxvi) [Reserved]

(xxxvii) Regulated NSR pollutant, for purposes of this section, means the following:

(A) Nitrogen oxides or any volatile organic compounds;

(B) Any pollutant for which a national ambient air quality standard has been promulgated;

(C) Any pollutant that is identified under this paragraph (a)(1)(xxxvii)(C) as a constituent or precursor of a general pollutant listed under paragraph (a)(1)(xxxvii)(A) or (B) of this section, provided that such constituent or precursor pollutant may only be regulated under NSR as part of regulation of the general pollutant. Precursors identified by the Administrator for purposes of NSR are the following:

(1) Volatile organic compounds and nitrogen oxides are precursors to ozone in all ozone nonattainment areas.

(2) Sulfur dioxide, Nitrogen oxides, Volatile organic compounds and Ammonia are precursors to PM_{2.5} in any PM_{2.5} nonattainment area.

(D) PM_{2.5} emissions and PM₁₀ emissions shall include gaseous emissions from a source or activity which condense to form particulate matter at ambient temperatures. On or after January 1, 2011 (or any earlier date established in the upcoming rulemaking codifying test methods), such condensable particulate matter shall be accounted for in applicability determinations and in establishing emissions limitations for PM_{2.5} and PM₁₀ in nonattainment major NSR permits. Compliance with emissions limitations for PM_{2.5} and PM₁₀ issued prior to this date shall not be based on condensable particulate matter unless required by the terms and conditions of the permit or the applicable implementation plan. Applicability determinations made prior to this date without accounting for condensable particulate matter shall not be considered in violation of this section unless the applicable implementation plan required condensable particulate matter to be included.

(xxxviii) Reviewing authority means the State air pollution control agency, local agency, other State agency, Indian tribe, or other agency authorized by the Administrator to carry out a permit program under this section and § 51.166, or the Administrator in the case of EPA-implemented permit programs under § 52.21.

(xxxix) Project means a physical change in, or change in the method of operation of, an existing major stationary source.

(xl) Best available control technology (BACT) means an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each regulated NSR pollutant which would be emitted from any

proposed major stationary source or major modification which the reviewing authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR part 60 or 61. If the reviewing authority determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.

(xli) Prevention of Significant Deterioration (PSD) permit means any permit that is issued under a major source preconstruction permit program that has been approved by the Administrator and incorporated into the plan to implement the requirements of § 51.166 of this chapter, or under the program in § 52.21 of this chapter.

(xlii) Federal Land Manager means, with respect to any lands in the United States, the Secretary of the department with authority over such lands.

(xliii)(A) In general, process unit means any collection of structures and/or equipment that processes, assembles, applies, blends, or otherwise uses material inputs to produce or store an intermediate or a completed product. A single stationary source may contain more than one process unit, and a process unit may contain more than one emissions unit.

(B) Pollution control equipment is not part of the process unit, unless it serves a dual function as both process and control equipment. Administrative and warehousing facilities are not part of the process unit.

(C) For replacement cost purposes, components shared between two or more process units are proportionately allocated based on capacity.

(D) The following list identifies the process units at specific categories of stationary sources.

(1) For a steam electric generating facility, the process unit consists of those portions of the plant that contribute directly to the production of electricity. For example, at a pulverized coal-fired facility, the process unit would generally be the combination of those systems from the coal receiving equipment through the emission stack (excluding post-combustion pollution controls), including the coal handling equipment, pulverizers or coal crushers, feedwater heaters, ash handling, boiler, burners, turbine-generator set, condenser, cooling tower, water treatment system, air preheaters, and operating control systems. Each separate generating unit is a separate process unit.

(2) For a petroleum refinery, there are several categories of process units: those that separate and/or distill petroleum feedstocks; those that change molecular structures; petroleum treating processes; auxiliary

facilities, such as steam generators and hydrogen production units; and those that load, unload, blend or store intermediate or completed products.

(3) For an incinerator, the process unit would consist of components from the feed pit or refuse pit to the stack, including conveyors, combustion devices, heat exchangers and steam generators, quench tanks, and fans.

Note to paragraph (a)(1)(xliii): By a court order on December 24, 2003, this paragraph (a)(1)(xliii) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(xliv) Functionally equivalent component means a component that serves the same purpose as the replaced component.

Note to paragraph (a)(1)(xliv): By a court order on December 24, 2003, this paragraph (a)(1)(xliv) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(xlv) Fixed capital cost means the capital needed to provide all the depreciable components. "Depreciable components" refers to all components of fixed capital cost and is calculated by subtracting land and working capital from the total capital investment, as defined in paragraph (a)(1)(xlv) of this section.

Note to paragraph (a)(1)(xlv): By a court order on December 24, 2003, this paragraph (a)(1)(xlv) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(xlv) Total capital investment means the sum of the following: All costs required to purchase needed process equipment (purchased equipment costs); the costs of labor and materials for installing that equipment (direct installation costs); the costs of site preparation and buildings; other costs such as engineering, construction and field expenses, fees to contractors, startup and performance tests, and contingencies (indirect installation costs); land for the process equipment; and working capital for the process equipment.

Note to paragraph (a)(1)(xlv): By a court order on December 24, 2003, this paragraph (a)(1)(xlv) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(2) Applicability procedures.

(i) Each plan shall adopt a preconstruction review program to satisfy the requirements of sections 172(c)(5) and 173 of the Act for any area designated nonattainment for any national ambient air quality standard under subpart C of 40 CFR part 81. Such a program shall apply to any new major stationary source or major modification that is major for the pollutant for which the area is designated nonattainment under section 107(d)(1)(A)(i) of the Act, if the stationary source or modification would locate anywhere in the designated nonattainment area. Different pollutants, including individual precursors, are not summed to determine applicability of a major stationary source or major modification.

(ii) Each plan shall use the specific provisions of paragraphs (a)(2)(ii)(A) through (F) of this section. Deviations from these provisions will be approved only if the State specifically demonstrates that the submitted provisions are more stringent than or at least as stringent in all respects as the corresponding provisions in paragraphs (a)(2)(ii)(A) through (F) of this section.

(A) Except as otherwise provided in paragraphs (a)(2)(iii) and (iv) of this section, and consistent with the definition of major modification contained in paragraph (a)(1)(v)(A) of this section, a project is a major modification for a regulated NSR pollutant (as defined in paragraph (a)(1)(xxxvii) of this section) if it causes two types of emissions increases—a significant emissions increase (as defined in paragraph (a)(1)(xxvii) of this section), and a significant net emissions increase (as defined in paragraphs (a)(1)(vi) and (x) of this section). The project is not a major modification if it does not cause a significant emissions increase. If the project causes a significant emissions increase, then the project is a major modification only if it also results in a significant net emissions increase.

(B) The procedure for calculating (before beginning actual construction) whether a significant emissions increase (i.e., the first step of the process) will occur depends upon the type of emissions units being modified, according to paragraphs (a)(2)(ii)(C) through (F) of this section. The procedure for calculating (before beginning actual construction) whether a significant net emissions increase will occur at the major stationary source (i.e., the second step of the process) is contained in the definition in paragraph (a)(1)(vi) of this section. Regardless of any such preconstruction projections, a major modification results if the project causes a significant emissions increase and a significant net emissions increase.

(C) Actual-to-projected-actual applicability test for projects that only involve existing emissions units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the projected actual emissions (as defined in paragraph (a)(1)(xxviii) of this section) and the baseline actual emissions (as defined in paragraphs (a)(1)(xxxv)(A) and (B) of this section, as applicable), for each existing emissions unit, equals or exceeds the significant amount for that pollutant (as defined in paragraph (a)(1)(x) of this section).

(D) Actual-to-potential test for projects that only involve construction of a new emissions unit(s). A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the potential to emit (as defined in paragraph (a)(1)(iii) of this section) from each new emissions unit following completion of the project and the baseline actual emissions (as defined in paragraph (a)(1)(xxxv)(C) of this section) of these units before the project equals or exceeds the significant amount for that pollutant (as defined in paragraph (a)(1)(x) of this section).

(E) [Reserved]

(F) Hybrid test for projects that involve multiple types of emissions units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the emissions increases for each emissions unit, using the method specified in paragraphs (a)(2)(ii)(C) through (D) of this section as applicable with respect to each emissions unit, for each type of emissions unit equals or exceeds the significant amount for that pollutant (as defined in paragraph (a)(1)(x) of this section).

(iii) The plan shall require that for any major stationary source for a PAL for a regulated NSR pollutant, the major stationary source shall comply with requirements under paragraph (f) of this section.

(iv) [Reserved]

(3)(i) Each plan shall provide that for sources and modifications subject to any preconstruction review program adopted pursuant to this subsection the baseline for determining credit for emissions reductions is the emissions limit under the applicable State Implementation Plan in effect at the time the application to construct is filed, except that the offset baseline shall be the actual emissions of the source from which offset credit is obtained where;

(A) The demonstration of reasonable further progress and attainment of ambient air quality standards is based upon the actual emissions of sources located within a designated nonattainment area for which the preconstruction review program was adopted; or

(B) The applicable State Implementation Plan does not contain an emissions limitation for that source or source category.

(ii) The plan shall further provide that:

(A) Where the emissions limit under the applicable State Implementation Plan allows greater emissions than the potential to emit of the source, emissions offset credit will be allowed only for control below this potential;

(B) For an existing fuel combustion source, credit shall be based on the allowable emissions under the applicable State Implementation Plan for the type of fuel being burned at the time the application to construct is filed. If the existing source commits to switch to a cleaner fuel at some future date, emissions offset credit based on the allowable (or actual) emissions for the fuels involved is not acceptable, unless the permit is conditioned to require the use of a specified alternative control measure which would achieve the same degree of emissions reduction should the source switch back to a dirtier fuel at some later date. The reviewing authority should ensure that adequate long-term supplies of the new fuel are available before granting emissions offset credit for fuel switches,

(C)(1) Emissions reductions achieved by shutting down an existing emission unit or curtailing production or operating hours may be generally credited for offsets if they meet the requirements in paragraphs (a)(3)(ii)(C)(1)(i) through (ii) of this section.

(i) Such reductions are surplus, permanent, quantifiable, and federally enforceable.

(ii) The shutdown or curtailment occurred after the last day of the base year for the SIP planning process. For purposes of this paragraph, a reviewing authority may choose to consider a prior shutdown or curtailment to have occurred after the last day of the base year if the projected emissions inventory used

to develop the attainment demonstration explicitly includes the emissions from such previously shutdown or curtailed emission units. However, in no event may credit be given for shutdowns that occurred before August 7, 1977.

(2) Emissions reductions achieved by shutting down an existing emissions unit or curtailing production or operating hours and that do not meet the requirements in paragraph (a)(3)(ii)(C)(1)(ii) of this section may be generally credited only if:

(i) The shutdown or curtailment occurred on or after the date the construction permit application is filed; or

(ii) The applicant can establish that the proposed new emissions unit is a replacement for the shutdown or curtailed emissions unit, and the emissions reductions achieved by the shutdown or curtailment met the requirements of paragraph (a)(3)(ii)(C)(1)(i) of this section.

(D) No emissions credit may be allowed for replacing one hydrocarbon compound with another of lesser reactivity, except for those compounds listed in Table 1 of EPA's "Recommended Policy on Control of Volatile Organic Compounds" (42 FR 35314, July 8, 1977; (This document is also available from Mr. Ted Creekmore, Office of Air Quality Planning and Standards, (MD-15) Research Triangle Park, NC 27711.))

(E) All emission reductions claimed as offset credit shall be federally enforceable;

(F) Procedures relating to the permissible location of offsetting emissions shall be followed which are at least as stringent as those set out in 40 CFR part 51 appendix S section IV.D.

(G) Credit for an emissions reduction can be claimed to the extent that the reviewing authority has not relied on it in issuing any permit under regulations approved pursuant to 40 CFR part 51 subpart I or the State has not relied on it in demonstration attainment or reasonable further progress.

(H), (I) [Reserved]

(J) The total tonnage of increased emissions, in tons per year, resulting from a major modification that must be offset in accordance with section 173 of the Act shall be determined by summing the difference between the allowable emissions after the modification (as defined by paragraph (a)(1)(xi) of this section) and the actual emissions before the modification (as defined in paragraph (a)(1)(xii) of this section) for each emissions unit.

(4) Each plan may provide that the provisions of this paragraph do not apply to a source or modification that would be a major stationary source or major modification only if fugitive emissions, to the extent quantifiable, are considered in calculating the potential to emit of the stationary source or modification and the source does not belong to any of the following categories:

(i) Coal cleaning plants (with thermal dryers);

- (ii) Kraft pulp mills;
- (iii) Portland cement plants;
- (iv) Primary zinc smelters;
- (v) Iron and steel mills;
- (vi) Primary aluminum ore reduction plants;
- (vii) Primary copper smelters;
- (viii) Municipal incinerators capable of charging more than 250 tons of refuse per day;
- (ix) Hydrofluoric, sulfuric, or citric acid plants;
- (x) Petroleum refineries;
- (xi) Lime plants;
- (xii) Phosphate rock processing plants;
- (xiii) Coke oven batteries;
- (xiv) Sulfur recovery plants;
- (xv) Carbon black plants (furnace process);
- (xvi) Primary lead smelters;
- (xvii) Fuel conversion plants;
- (xviii) Sintering plants;
- (xix) Secondary metal production plants;

(xx) Chemical process plants—The term chemical processing plant shall not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140;

(xxi) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;

(xxii) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;

(xxiii) Taconite ore processing plants;

(xxiv) Glass fiber processing plants;

(xxv) Charcoal production plants;

(xxvi) Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input;

(xxvii) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act.

(5) Each plan shall include enforceable procedures to provide that:

(i) Approval to construct shall not relieve any owner or operator of the responsibility to comply fully with applicable provision of the plan and any other requirements under local, State or Federal law.

(ii) At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforcement limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of regulations approved pursuant to this section shall apply to the source or modification as though construction had not yet commenced on the source or modification;

(6) Each plan shall provide that, except as otherwise provided in paragraph (a)(6)(vi) of this section, the following specific provisions apply with respect to any regulated NSR pollutant emitted from projects at existing emissions units at a major stationary source (other than projects at a source with a PAL) in circumstances where there is a reasonable possibility, within the meaning of paragraph (a)(6)(vi) of this section, that a project that is not a part of a major modification may result in a significant emissions increase of such pollutant, and the owner or operator elects to use the method specified in paragraphs (a)(1)(xxviii)(B)(1) through (3) of this section for calculating projected actual emissions. Deviations from these provisions will be approved only if the State specifically demonstrates that the submitted provisions are more stringent than or at least as stringent in all respects as the corresponding provisions in paragraphs (a)(6)(i) through (vi) of this section.

(i) Before beginning actual construction of the project, the owner or operator shall document and maintain a record of the following information:

(A) A description of the project;

(B) Identification of the emissions unit(s) whose emissions of a regulated NSR pollutant could be affected by the project; and

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under paragraph (a)(1)(xxviii)(B)(3) of this section and an explanation for why such amount was excluded, and any netting calculations, if applicable.

(ii) If the emissions unit is an existing electric utility steam generating unit, before beginning actual construction, the owner or operator shall provide a copy of the information set out in paragraph (a)(6)(i) of this section to the reviewing authority. Nothing in this paragraph (a)(6)(ii) shall be construed to require the owner or operator of such a unit to obtain any determination from the reviewing authority before beginning actual construction.

(iii) The owner or operator shall monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any emissions units identified in paragraph (a)(6)(i)(B) of this section; and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity or potential to emit of that regulated NSR pollutant at such emissions unit.

(iv) If the unit is an existing electric utility steam generating unit, the owner or operator shall submit a report to the reviewing authority within 60 days after the end of each year during which records must be generated under paragraph (a)(6)(iii) of this section setting out the unit's annual emissions during the year that preceded submission of the report.

(v) If the unit is an existing unit other than an electric utility steam generating unit, the owner or operator shall submit a report to the reviewing authority if the annual emissions, in tons per year, from the project identified in paragraph (a)(6)(i) of this section, exceed the baseline actual emissions (as documented and maintained pursuant to paragraph (a)(6)(i)(C) of this section, by a significant amount (as defined in paragraph (a)(1)(x) of this section) for that regulated NSR pollutant, and if such emissions differ from the preconstruction projection as documented and maintained pursuant to paragraph (a)(6)(i)(C) of this section. Such report shall be submitted to the reviewing authority within 60 days after the end of such year. The report shall contain the following:

(A) The name, address and telephone number of the major stationary source;

(B) The annual emissions as calculated pursuant to paragraph (a)(6)(iii) of this section; and

(C) Any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

(vi) A “reasonable possibility” under paragraph (a)(6) of this section occurs when the owner or operator calculates the project to result in either:

(A) A projected actual emissions increase of at least 50 percent of the amount that is a “significant emissions increase,” as defined under paragraph (a)(1)(xxvii) of this section (without reference to the amount that is a significant net emissions increase), for the regulated NSR pollutant; or

(B) A projected actual emissions increase that, added to the amount of emissions excluded under paragraph (a)(1)(xxviii)(B)(3), sums to at least 50 percent of the amount that is a “significant emissions increase,” as defined under paragraph (a)(1)(xxvii) of this section (without reference to the amount that is a significant net emissions increase), for the regulated NSR pollutant. For a project for which a reasonable possibility occurs only within the meaning of paragraph (a)(6)(vi)(B) of this section, and not also within the meaning of paragraph (a)(6)(vi)(A) of this section, then provisions (a)(6)(ii) through (v) do not apply to the project.

(7) Each plan shall provide that the owner or operator of the source shall make the information required to be documented and maintained pursuant to paragraph (a)(6) of this section available for review upon a request for inspection by the reviewing authority or the general public pursuant to the requirements contained in § 70.4(b)(3)(viii) of this chapter.

(8) The plan shall provide that the requirements of this section applicable to major stationary sources and major modifications of volatile organic compounds shall apply to nitrogen oxides emissions from major stationary sources and major modifications of nitrogen oxides in an ozone transport region or in any ozone nonattainment area, except in ozone nonattainment areas or in portions of an ozone transport region where the Administrator has granted a NO_x waiver applying the standards set forth under section 182(f) of the Act and the waiver continues to apply.

(9)(i) The plan shall require that in meeting the emissions offset requirements of paragraph (a)(3) of this section, the ratio of total actual emissions reductions to the emissions increase shall be at least 1:1 unless an alternative ratio is provided for the applicable nonattainment area in paragraphs (a)(9)(ii) through (a)(9)(iv) of this section.

(ii) The plan shall require that in meeting the emissions offset requirements of paragraph (a)(3) of this section for ozone nonattainment areas that are subject to subpart 2, part D, title I of the Act, the ratio of total actual emissions reductions of VOC to the emissions increase of VOC shall be as follows:

(A) In any marginal nonattainment area for ozone—at least 1.1:1;

(B) In any moderate nonattainment area for ozone—at least 1.15:1;

(C) In any serious nonattainment area for ozone—at least 1.2:1;

(D) In any severe nonattainment area for ozone—at least 1.3:1 (except that the ratio may be at least 1.2:1 if the approved plan also requires all existing major sources in such nonattainment area to use BACT for the control of VOC); and

(E) In any extreme nonattainment area for ozone—at least 1.5:1 (except that the ratio may be at least 1.2:1 if the approved plan also requires all existing major sources in such nonattainment area to use BACT for the control of VOC); and

(iii) Notwithstanding the requirements of paragraph (a)(9)(ii) of this section for meeting the requirements of paragraph (a)(3) of this section, the ratio of total actual emissions reductions of VOC to the emissions increase of VOC shall be at least 1.15:1 for all areas within an ozone transport region that is subject to subpart 2, part D, title I of the Act, except for serious, severe, and extreme ozone nonattainment areas that are subject to subpart 2, part D, title I of the Act.

(iv) The plan shall require that in meeting the emissions offset requirements of paragraph (a)(3) of this section for ozone nonattainment areas that are subject to subpart 1, part D, title I of the Act (but are not subject to subpart 2, part D, title I of the Act, including 8-hour ozone nonattainment areas subject to [40 CFR 51.902\(b\)](#)), the ratio of total actual emissions reductions of VOC to the emissions increase of VOC shall be at least 1:1.

(10) The plan shall require that the requirements of this section applicable to major stationary sources and major modifications of PM₁₀ shall also apply to major stationary sources and major modifications of PM₁₀ precursors, except where the Administrator determines that such sources do not contribute significantly to PM₁₀ levels that exceed the PM₁₀ ambient standards in the area.

(11) The plan shall require that in meeting the emissions offset requirements of paragraph (a)(3) of this section, the emissions offsets obtained shall be for the same regulated NSR pollutant unless interprecursor offsetting is permitted for a particular pollutant as specified in this paragraph.

(i) The plan may allow the offset requirement in paragraph (a)(3) of this section for emissions of the ozone precursors NO_x and VOC to be satisfied by offsetting reductions in emissions of either of those precursors, if all other requirements for such offsets are also satisfied.

(ii) The plan may allow the offset requirements in paragraph (a)(3) of this section for direct PM_{2.5} emissions or emissions of precursors of PM_{2.5} to be satisfied by offsetting reductions in direct PM_{2.5} emissions or emissions of any PM_{2.5} precursor identified under paragraph (a)(1)(xxvii)(C) of this section if such offsets comply with the interprecursor trading hierarchy and ratio established in the approved plan for a particular nonattainment area.

(12) The plan shall require that in any area designated nonattainment for the 2008 ozone NAAQS and designated nonattainment for the 1997 ozone NAAQS on April 6, 2015 the requirements of this section applicable to major stationary sources and major modifications of ozone shall include the anti-backsliding requirements contained at [§ 51.1105](#).

(13) The plan shall require that the control requirements of this section applicable to major stationary sources and major modifications of PM_{2.5} shall also apply to major stationary sources and major modifications of PM_{2.5} precursors in a PM_{2.5} nonattainment area, except that a reviewing authority may exempt new major stationary sources and major modifications of a particular precursor from the requirements of this section for PM_{2.5} if the NNSR precursor demonstration submitted to and approved by the Administrator shows that such sources do not contribute significantly to PM_{2.5} levels that exceed the standard in the area. Any demonstration submitted for the Administrator's review must meet the conditions for a NNSR precursor demonstration as set forth in § 51.1006(a)(3).

(b)(1) Each plan shall include a preconstruction review permit program or its equivalent to satisfy the requirements of section 110(a)(2)(D)(i) of the Act for any new major stationary source or major modification as defined in paragraphs (a)(1) (iv) and (v) of this section. Such a program shall apply to any such source or modification that would locate in any area designated as attainment or unclassifiable for any national ambient air quality standard pursuant to section 107 of the Act, when it would cause or contribute to a violation of any national ambient air quality standard.

(2) A major source or major modification will be considered to cause or contribute to a violation of a national ambient air quality standard when such source or modification would, at a minimum, exceed the following significance levels at any locality that does not or would not meet the applicable national standard:

Pollutant	Annual	Averaging time (hours)			
		24	8	3	1
SO ₂	1.0 µg/m ³	5 µg/m ³		25 µg/m ³	
PM ₁₀	1.0 µg/m ³	5 µg/m ³			
PM _{2.5}	0.3 µg/m ³	1.2 µg/m ³			
NO ₂	1.0 µg/m ³				
CO		0.5 mg/m ³		2 mg/m ³

(3) Such a program may include a provision which allows a proposed major source or major modification subject to paragraph (b) of this section to reduce the impact of its emissions upon air quality by obtaining sufficient emission reductions to, at a minimum, compensate for its adverse ambient impact where the major source or major modification would otherwise cause or contribute to a violation of any national ambient air quality standard. The plan shall require that, in the absence of such emission reductions, the State or local agency shall deny the proposed construction.

(4) The requirements of paragraph (b) of this section shall not apply to a major stationary source or major modification with respect to a particular pollutant if the owner or operator demonstrates that, as to that pollutant, the source or modification is located in an area designated as nonattainment pursuant to section 107 of the Act.

(c) to (e) [Reserved]

(f) Actuals PALs. The plan shall provide for PALs according to the provisions in paragraphs (f)(1) through (15) of this section.

(1) Applicability.

(i) The reviewing authority may approve the use of an actuals PAL for any existing major stationary source (except as provided in paragraph (f)(1)(ii) of this section) if the PAL meets the requirements in paragraphs (f)(1) through (15) of this section. The term “PAL” shall mean “actuals PAL” throughout paragraph (f) of this section.

(ii) The reviewing authority shall not allow an actuals PAL for VOC or NO_x for any major stationary source located in an extreme ozone nonattainment area.

(iii) Any physical change in or change in the method of operation of a major stationary source that maintains its total source-wide emissions below the PAL level, meets the requirements in paragraphs (f)(1) through (15) of this section, and complies with the PAL permit:

(A) Is not a major modification for the PAL pollutant;

(B) Does not have to be approved through the plan's nonattainment major NSR program; and

(C) Is not subject to the provisions in paragraph (a)(5)(ii) of this section (restrictions on relaxing enforceable emission limitations that the major stationary source used to avoid applicability of the nonattainment major NSR program).

(iv) Except as provided under paragraph (f)(1)(iii)(C) of this section, a major stationary source shall continue to comply with all applicable Federal or State requirements, emission limitations, and work practice requirements that were established prior to the effective date of the PAL.

(2) Definitions. The plan shall use the definitions in paragraphs (f)(2)(i) through (xi) of this section for the purpose of developing and implementing regulations that authorize the use of actuals PALs consistent with paragraphs (f)(1) through (15) of this section. When a term is not defined in these paragraphs, it shall have the meaning given in paragraph (a)(1) of this section or in the Act.

(i) Actuals PAL for a major stationary source means a PAL based on the baseline actual emissions (as defined in paragraph (a)(1)(xxxv) of this section) of all emissions units (as defined in paragraph (a)(1)(vii) of this section) at the source, that emit or have the potential to emit the PAL pollutant.

(ii) Allowable emissions means “allowable emissions” as defined in paragraph (a)(1)(xi) of this section, except as this definition is modified according to paragraphs (f)(2)(ii)(A) through (B) of this section.

(A) The allowable emissions for any emissions unit shall be calculated considering any emission limitations that are enforceable as a practical matter on the emissions unit's potential to emit.

(B) An emissions unit's potential to emit shall be determined using the definition in paragraph (a)(1)(iii) of this section, except that the words “or enforceable as a practical matter” should be added after “federally enforceable.”

(iii) Small emissions unit means an emissions unit that emits or has the potential to emit the PAL pollutant in an amount less than the significant level for that PAL pollutant, as defined in paragraph (a)(1)(x) of this section or in the Act, whichever is lower.

(iv) Major emissions unit means:

(A) Any emissions unit that emits or has the potential to emit 100 tons per year or more of the PAL pollutant in an attainment area; or

(B) Any emissions unit that emits or has the potential to emit the PAL pollutant in an amount that is equal to or greater than the major source threshold for the PAL pollutant as defined by the Act for nonattainment areas. For example, in accordance with the definition of major stationary source in section 182(c) of the Act, an emissions unit would be a major emissions unit for VOC if the emissions unit is located in a serious ozone nonattainment area and it emits or has the potential to emit 50 or more tons of VOC per year.

(v) Plantwide applicability limitation (PAL) means an emission limitation expressed in tons per year, for a pollutant at a major stationary source, that is enforceable as a practical matter and established source-wide in accordance with paragraphs (f)(1) through (f)(15) of this section.

(vi) PAL effective date generally means the date of issuance of the PAL permit. However, the PAL effective date for an increased PAL is the date any emissions unit which is part of the PAL major modification becomes operational and begins to emit the PAL pollutant.

(vii) PAL effective period means the period beginning with the PAL effective date and ending 10 years later.

(viii) PAL major modification means, notwithstanding paragraphs (a)(1)(v) and (vi) of this section (the definitions for major modification and net emissions increase), any physical change in or change in the method of operation of the PAL source that causes it to emit the PAL pollutant at a level equal to or greater than the PAL.

(ix) PAL permit means the major NSR permit, the minor NSR permit, or the State operating permit under a program that is approved into the plan, or the title V permit issued by the reviewing authority that establishes a PAL for a major stationary source.

(x) PAL pollutant means the pollutant for which a PAL is established at a major stationary source.

(xi) Significant emissions unit means an emissions unit that emits or has the potential to emit a PAL pollutant in an amount that is equal to or greater than the significant level (as defined in paragraph (a)(1)(x) of this section or in the Act, whichever is lower) for that PAL pollutant, but less than the amount that would qualify the unit as a major emissions unit as defined in paragraph (f)(2)(iv) of this section.

(3) Permit application requirements. As part of a permit application requesting a PAL, the owner or operator of a major stationary source shall submit the following information to the reviewing authority for approval:

(i) A list of all emissions units at the source designated as small, significant or major based on their potential to emit. In addition, the owner or operator of the source shall indicate which, if any, Federal or State applicable requirements, emission limitations or work practices apply to each unit.

(ii) Calculations of the baseline actual emissions (with supporting documentation). Baseline actual emissions are to include emissions associated not only with operation of the unit, but also emissions associated with startup, shutdown and malfunction.

(iii) The calculation procedures that the major stationary source owner or operator proposes to use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total for each month as required by paragraph (f)(13)(i) of this section.

(4) General requirements for establishing PALs.

(i) The plan allows the reviewing authority to establish a PAL at a major stationary source, provided that at a minimum, the requirements in paragraphs (f)(4)(i)(A) through (G) of this section are met.

(A) The PAL shall impose an annual emission limitation in tons per year, that is enforceable as a practical matter, for the entire major stationary source. For each month during the PAL effective period after the first 12 months of establishing a PAL, the major stationary source owner or operator shall show that the sum of the monthly emissions from each emissions unit under the PAL for the previous 12 consecutive months is less than the PAL (a 12-month average, rolled monthly). For each month during the first 11 months from the PAL effective date, the major stationary source owner or operator shall show that the sum of the preceding monthly emissions from the PAL effective date for each emissions unit under the PAL is less than the PAL.

(B) The PAL shall be established in a PAL permit that meets the public participation requirements in paragraph (f)(5) of this section.

(C) The PAL permit shall contain all the requirements of paragraph (f)(7) of this section.

(D) The PAL shall include fugitive emissions, to the extent quantifiable, from all emissions units that emit or have the potential to emit the PAL pollutant at the major stationary source.

(E) Each PAL shall regulate emissions of only one pollutant.

(F) Each PAL shall have a PAL effective period of 10 years.

(G) The owner or operator of the major stationary source with a PAL shall comply with the monitoring, recordkeeping, and reporting requirements provided in paragraphs (f)(12) through (14) of this section for each emissions unit under the PAL through the PAL effective period.

(ii) At no time (during or after the PAL effective period) are emissions reductions of a PAL pollutant, which occur during the PAL effective period, creditable as decreases for purposes of offsets under paragraph (a)(3)(ii) of this section unless the level of the PAL is reduced by the amount of such emissions reductions and such reductions would be creditable in the absence of the PAL.

(5) Public participation requirement for PALs. PALs for existing major stationary sources shall be established, renewed, or increased through a procedure that is consistent with §§ 51.160 and 51.161 of this chapter. This includes the requirement that the reviewing authority provide the public with notice of the proposed approval of a PAL permit and at least a 30-day period for submittal of public comment. The reviewing authority must address all material comments before taking final action on the permit.

(6) Setting the 10-year actuals PAL level.

(i) Except as provided in paragraph (f)(6)(ii) of this section, the plan shall provide that the actuals PAL level for a major stationary source shall be established as the sum of the baseline actual emissions (as defined in paragraph (a)(1)(xxxv) of this section) of the PAL pollutant for each emissions unit at the source; plus an amount equal to the applicable significant level for the PAL pollutant under paragraph (a)(1)(x) of this section or under the Act, whichever is lower. When establishing the actuals PAL level, for a PAL pollutant, only one consecutive 24-month period must be used to determine the baseline actual emissions for all existing emissions units. However, a different consecutive 24-month period may be used for each different PAL pollutant. Emissions associated with units that were permanently shut down after this 24-month period must be subtracted from the PAL level. The reviewing authority shall specify a reduced PAL level(s) (in tons/yr) in the PAL permit to become effective on the future compliance date(s) of any applicable Federal or State regulatory requirement(s) that the reviewing authority is aware of prior to issuance of the PAL permit. For instance, if the source owner or operator will be required to reduce emissions from industrial boilers in half from baseline emissions of 60 ppm NO_x to a new rule limit of 30 ppm, then the permit shall contain a future effective PAL level that is equal to the current PAL level reduced by half of the original baseline emissions of such unit(s).

(ii) For newly constructed units (which do not include modifications to existing units) on which actual construction began after the 24-month period, in lieu of adding the baseline actual emissions as specified in paragraph (f)(6)(i) of this section, the emissions must be added to the PAL level in an amount equal to the potential to emit of the units.

(7) Contents of the PAL permit. The plan shall require that the PAL permit contain, at a minimum, the information in paragraphs (f)(7)(i) through (x) of this section.

(i) The PAL pollutant and the applicable source-wide emission limitation in tons per year.

(ii) The PAL permit effective date and the expiration date of the PAL (PAL effective period).

(iii) Specification in the PAL permit that if a major stationary source owner or operator applies to renew a PAL in accordance with paragraph (f)(10) of this section before the end of the PAL effective period, then the PAL shall not expire at the end of the PAL effective period. It shall remain in effect until a revised PAL permit is issued by the reviewing authority.

(iv) A requirement that emission calculations for compliance purposes include emissions from startups, shutdowns and malfunctions.

(v) A requirement that, once the PAL expires, the major stationary source is subject to the requirements of paragraph (f)(9) of this section.

(vi) The calculation procedures that the major stationary source owner or operator shall use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total for each month as required by paragraph (f)(13)(i) of this section.

(vii) A requirement that the major stationary source owner or operator monitor all emissions units in accordance with the provisions under paragraph (f)(12) of this section.

(viii) A requirement to retain the records required under paragraph (f)(13) of this section on site. Such records may be retained in an electronic format.

(ix) A requirement to submit the reports required under paragraph (f)(14) of this section by the required deadlines.

(x) Any other requirements that the reviewing authority deems necessary to implement and enforce the PAL.

(8) PAL effective period and reopening of the PAL permit. The plan shall require the information in paragraphs (f)(8)(i) and (ii) of this section.

(i) PAL effective period. The reviewing authority shall specify a PAL effective period of 10 years.

(ii) Reopening of the PAL permit.

(A) During the PAL effective period, the plan shall require the reviewing authority to reopen the PAL permit to:

(1) Correct typographical/calculation errors made in setting the PAL or reflect a more accurate determination of emissions used to establish the PAL.

(2) Reduce the PAL if the owner or operator of the major stationary source creates creditable emissions reductions for use as offsets under paragraph (a)(3)(ii) of this section.

(3) Revise the PAL to reflect an increase in the PAL as provided under paragraph (f)(11) of this section.

(B) The plan shall provide the reviewing authority discretion to reopen the PAL permit for the following:

(1) Reduce the PAL to reflect newly applicable Federal requirements (for example, NSPS) with compliance dates after the PAL effective date.

(2) Reduce the PAL consistent with any other requirement, that is enforceable as a practical matter, and that the State may impose on the major stationary source under the plan.

(3) Reduce the PAL if the reviewing authority determines that a reduction is necessary to avoid causing or contributing to a NAAQS or PSD increment violation, or to an adverse impact on an air quality related value that has been identified for a Federal Class I area by a Federal Land Manager and for which information is available to the general public.

(C) Except for the permit reopening in paragraph (f)(8)(ii)(A)(1) of this section for the correction of typographical/calculation errors that do not increase the PAL level, all other reopenings shall be carried out in accordance with the public participation requirements of paragraph (f)(5) of this section.

(9) Expiration of a PAL. Any PAL which is not renewed in accordance with the procedures in paragraph (f)(10) of this section shall expire at the end of the PAL effective period, and the requirements in paragraphs (f)(9)(i) through (v) of this section shall apply.

(i) Each emissions unit (or each group of emissions units) that existed under the PAL shall comply with an allowable emission limitation under a revised permit established according to the procedures in paragraphs (f)(9)(i)(A) through (B) of this section.

(A) Within the time frame specified for PAL renewals in paragraph (f)(10)(ii) of this section, the major stationary source shall submit a proposed allowable emission limitation for each emissions unit (or each group of emissions units, if such a distribution is more appropriate as decided by the reviewing authority) by distributing the PAL allowable emissions for the major stationary source among each of the emissions units that existed under the PAL. If the PAL had not yet been adjusted for an applicable requirement that became effective during the PAL effective period, as required under paragraph (f)(10)(v) of this section, such distribution shall be made as if the PAL had been adjusted.

(B) The reviewing authority shall decide whether and how the PAL allowable emissions will be distributed and issue a revised permit incorporating allowable limits for each emissions unit, or each group of emissions units, as the reviewing authority determines is appropriate.

(ii) Each emissions unit(s) shall comply with the allowable emission limitation on a 12-month rolling basis. The reviewing authority may approve the use of monitoring systems (source testing, emission factors, etc.) other than CEMS, CERMS, PEMS or CPMS to demonstrate compliance with the allowable emission limitation.

(iii) Until the reviewing authority issues the revised permit incorporating allowable limits for each emissions unit, or each group of emissions units, as required under paragraph (f)(9)(i)(A) of this section, the source shall continue to comply with a source-wide, multi-unit emissions cap equivalent to the level of the PAL emission limitation.

(iv) Any physical change or change in the method of operation at the major stationary source will be subject to the nonattainment major NSR requirements if such change meets the definition of major modification in paragraph (a)(1)(v) of this section.

(v) The major stationary source owner or operator shall continue to comply with any State or Federal applicable requirements (BACT, RACT, NSPS, etc.) that may have applied either during the PAL effective period or prior to the PAL effective period except for those emission limitations that had been established pursuant to paragraph (a)(5)(ii) of this section, but were eliminated by the PAL in accordance with the provisions in paragraph (f)(1)(iii)(C) of this section.

(10) Renewal of a PAL.

(i) The reviewing authority shall follow the procedures specified in paragraph (f)(5) of this section in approving any request to renew a PAL for a major stationary source, and shall provide both the proposed PAL level and a written rationale for the proposed PAL level to the public for review and comment. During such public review, any person may propose a PAL level for the source for consideration by the reviewing authority.

(ii) Application deadline. The plan shall require that a major stationary source owner or operator shall submit a timely application to the reviewing authority to request renewal of a PAL. A timely application is one that is submitted at least 6 months prior to, but not earlier than 18 months from, the date of permit expiration. This deadline for application submittal is to ensure that the permit will not expire before the permit is renewed. If the owner or operator of a major stationary source submits a complete application to renew the PAL within this time period, then the PAL shall continue to be effective until the revised permit with the renewed PAL is issued.

(iii) Application requirements. The application to renew a PAL permit shall contain the information required in paragraphs (f)(10)(iii)(A) through (D) of this section.

(A) The information required in paragraphs (f)(3)(i) through (iii) of this section.

(B) A proposed PAL level.

(C) The sum of the potential to emit of all emissions units under the PAL (with supporting documentation).

(D) Any other information the owner or operator wishes the reviewing authority to consider in determining the appropriate level for renewing the PAL.

(iv) PAL adjustment. In determining whether and how to adjust the PAL, the reviewing authority shall consider the options outlined in paragraphs (f)(10)(iv)(A) and (B) of this section. However, in no case may any such adjustment fail to comply with paragraph (f)(10)(iv)(C) of this section.

(A) If the emissions level calculated in accordance with paragraph (f)(6) of this section is equal to or greater than 80 percent of the PAL level, the reviewing authority may renew the PAL at the same level without considering the factors set forth in paragraph (f)(10)(iv)(B) of this section; or

(B) The reviewing authority may set the PAL at a level that it determines to be more representative of the source's baseline actual emissions, or that it determines to be appropriate considering air quality needs, advances in control technology, anticipated economic growth in the area, desire to reward or encourage the source's voluntary emissions reductions, or other factors as specifically identified by the reviewing authority in its written rationale.

(C) Notwithstanding paragraphs (f)(10)(iv)(A) and (B) of this section,

(1) If the potential to emit of the major stationary source is less than the PAL, the reviewing authority shall adjust the PAL to a level no greater than the potential to emit of the source; and

(2) The reviewing authority shall not approve a renewed PAL level higher than the current PAL, unless the major stationary source has complied with the provisions of paragraph (f)(11) of this section (increasing a PAL).

(v) If the compliance date for a State or Federal requirement that applies to the PAL source occurs during the PAL effective period, and if the reviewing authority has not already adjusted for such requirement, the PAL shall be adjusted at the time of PAL permit renewal or title V permit renewal, whichever occurs first.

(11) Increasing a PAL during the PAL effective period.

(i) The plan shall require that the reviewing authority may increase a PAL emission limitation only if the major stationary source complies with the provisions in paragraphs (f)(11)(i)(A) through (D) of this section.

(A) The owner or operator of the major stationary source shall submit a complete application to request an increase in the PAL limit for a PAL major modification. Such application shall identify the emissions unit(s) contributing to the increase in emissions so as to cause the major stationary source's emissions to equal or exceed its PAL.

(B) As part of this application, the major stationary source owner or operator shall demonstrate that the sum of the baseline actual emissions of the small emissions units, plus the sum of the baseline actual emissions of the significant and major emissions units assuming application of BACT equivalent controls, plus the sum of the allowable emissions of the new or modified emissions unit(s) exceeds the PAL. The level of control that would result from BACT equivalent controls on each significant or major emissions unit shall be determined by conducting a new BACT analysis at the time the application is submitted, unless the emissions unit is currently required to comply with a BACT or LAER requirement that was established within the preceding 10 years. In such a case, the assumed control level for that emissions unit shall be equal to the level of BACT or LAER with which that emissions unit must currently comply.

(C) The owner or operator obtains a major NSR permit for all emissions unit(s) identified in paragraph (f)(11)(i)(A) of this section, regardless of the magnitude of the emissions increase resulting from them (that is, no significant levels apply). These emissions unit(s) shall comply with any emissions requirements resulting from the nonattainment major NSR program process (for example, LAER), even though they have also become subject to the PAL or continue to be subject to the PAL.

(D) The PAL permit shall require that the increased PAL level shall be effective on the day any emissions unit that is part of the PAL major modification becomes operational and begins to emit the PAL pollutant.

(ii) The reviewing authority shall calculate the new PAL as the sum of the allowable emissions for each modified or new emissions unit, plus the sum of the baseline actual emissions of the significant and major emissions units (assuming application of BACT equivalent controls as determined in accordance with paragraph (f)(11)(i)(B)), plus the sum of the baseline actual emissions of the small emissions units.

(iii) The PAL permit shall be revised to reflect the increased PAL level pursuant to the public notice requirements of paragraph (f)(5) of this section.

(12) Monitoring requirements for PALs—

(i) General requirements.

(A) Each PAL permit must contain enforceable requirements for the monitoring system that accurately determines plantwide emissions of the PAL pollutant in terms of mass per unit of time. Any monitoring system authorized for use in the PAL permit must be based on sound science and meet generally acceptable scientific procedures for data quality and manipulation. Additionally, the information generated by such system must meet minimum legal requirements for admissibility in a judicial proceeding to enforce the PAL permit.

(B) The PAL monitoring system must employ one or more of the four general monitoring approaches meeting the minimum requirements set forth in paragraphs (f)(12)(ii)(A) through (D) of this section and must be approved by the reviewing authority.

(C) Notwithstanding paragraph (f)(12)(i)(B) of this section, you may also employ an alternative monitoring approach that meets paragraph (f)(12)(i)(A) of this section if approved by the reviewing authority.

(D) Failure to use a monitoring system that meets the requirements of this section renders the PAL invalid.

(ii) Minimum Performance Requirements for Approved Monitoring Approaches. The following are acceptable general monitoring approaches when conducted in accordance with the minimum requirements in paragraphs (f)(12)(iii) through (ix) of this section:

(A) Mass balance calculations for activities using coatings or solvents;

(B) CEMS;

(C) CPMS or PEMS; and

(D) Emission Factors.

(iii) Mass Balance Calculations. An owner or operator using mass balance calculations to monitor PAL pollutant emissions from activities using coating or solvents shall meet the following requirements:

(A) Provide a demonstrated means of validating the published content of the PAL pollutant that is contained in or created by all materials used in or at the emissions unit;

(B) Assume that the emissions unit emits all of the PAL pollutant that is contained in or created by any raw material or fuel used in or at the emissions unit, if it cannot otherwise be accounted for in the process; and

(C) Where the vendor of a material or fuel, which is used in or at the emissions unit, publishes a range of pollutant content from such material, the owner or operator must use the highest value of the range to calculate the PAL pollutant emissions unless the reviewing authority determines there is site-specific data or a site-specific monitoring program to support another content within the range.

(iv) CEMS. An owner or operator using CEMS to monitor PAL pollutant emissions shall meet the following requirements:

(A) CEMS must comply with applicable Performance Specifications found in [40 CFR part 60, appendix B](#); and

(B) CEMS must sample, analyze and record data at least every 15 minutes while the emissions unit is operating.

(v) CPMS or PEMS. An owner or operator using CPMS or PEMS to monitor PAL pollutant emissions shall meet the following requirements:

(A) The CPMS or the PEMS must be based on current site-specific data demonstrating a correlation between the monitored parameter(s) and the PAL pollutant emissions across the range of operation of the emissions unit; and

(B) Each CPMS or PEMS must sample, analyze, and record data at least every 15 minutes, or at another less frequent interval approved by the reviewing authority, while the emissions unit is operating.

(vi) Emission factors. An owner or operator using emission factors to monitor PAL pollutant emissions shall meet the following requirements:

(A) All emission factors shall be adjusted, if appropriate, to account for the degree of uncertainty or limitations in the factors' development;

(B) The emissions unit shall operate within the designated range of use for the emission factor, if applicable; and

(C) If technically practicable, the owner or operator of a significant emissions unit that relies on an emission factor to calculate PAL pollutant emissions shall conduct validation testing to determine a site-specific emission factor within 6 months of PAL permit issuance, unless the reviewing authority determines that testing is not required.

(vii) A source owner or operator must record and report maximum potential emissions without considering enforceable emission limitations or operational restrictions for an emissions unit during any period of time that there is no monitoring data, unless another method for determining emissions during such periods is specified in the PAL permit.

(viii) Notwithstanding the requirements in paragraphs (f)(12)(iii) through (vii) of this section, where an owner or operator of an emissions unit cannot demonstrate a correlation between the monitored parameter(s) and the PAL pollutant emissions rate at all operating points of the emissions unit, the reviewing authority shall, at the time of permit issuance:

(A) Establish default value(s) for determining compliance with the PAL based on the highest potential emissions reasonably estimated at such operating point(s); or

(B) Determine that operation of the emissions unit during operating conditions when there is no correlation between monitored parameter(s) and the PAL pollutant emissions is a violation of the PAL.

(ix) Re-validation. All data used to establish the PAL pollutant must be re-validated through performance testing or other scientifically valid means approved by the reviewing authority. Such testing must occur at least once every 5 years after issuance of the PAL.

(13) Recordkeeping requirements.

(i) The PAL permit shall require an owner or operator to retain a copy of all records necessary to determine compliance with any requirement of paragraph (f) of this section and of the PAL, including a determination of each emissions unit's 12-month rolling total emissions, for 5 years from the date of such record.

(ii) The PAL permit shall require an owner or operator to retain a copy of the following records for the duration of the PAL effective period plus 5 years:

(A) A copy of the PAL permit application and any applications for revisions to the PAL; and

(B) Each annual certification of compliance pursuant to title V and the data relied on in certifying the compliance.

(14) Reporting and notification requirements. The owner or operator shall submit semi-annual monitoring reports and prompt deviation reports to the reviewing authority in accordance with the applicable title V operating permit program. The reports shall meet the requirements in paragraphs (f)(14)(i) through (iii).

(i) Semi-Annual Report. The semi-annual report shall be submitted to the reviewing authority within 30 days of the end of each reporting period. This report shall contain the information required in paragraphs (f)(14)(i)(A) through (G) of this section.

(A) The identification of owner and operator and the permit number.

(B) Total annual emissions (tons/year) based on a 12-month rolling total for each month in the reporting period recorded pursuant to paragraph (f)(13)(i) of this section.

(C) All data relied upon, including, but not limited to, any Quality Assurance or Quality Control data, in calculating the monthly and annual PAL pollutant emissions.

(D) A list of any emissions units modified or added to the major stationary source during the preceding 6-month period.

(E) The number, duration, and cause of any deviations or monitoring malfunctions (other than the time associated with zero and span calibration checks), and any corrective action taken.

(F) A notification of a shutdown of any monitoring system, whether the shutdown was permanent or temporary, the reason for the shutdown, the anticipated date that the monitoring system will be fully operational or replaced with another monitoring system, and whether the emissions unit monitored by the monitoring system continued to operate, and the calculation of the emissions of the pollutant or the number determined by method included in the permit, as provided by paragraph (f)(12)(vii) of this section.

(G) A signed statement by the responsible official (as defined by the applicable title V operating permit program) certifying the truth, accuracy, and completeness of the information provided in the report.

(ii) Deviation report. The major stationary source owner or operator shall promptly submit reports of any deviations or exceedance of the PAL requirements, including periods where no monitoring is available. A report submitted pursuant to § 70.6(a)(3)(iii)(B) of this chapter shall satisfy this reporting requirement. The deviation reports shall be submitted within the time limits prescribed by the applicable program implementing § 70.6(a)(3)(iii)(B) of this chapter. The reports shall contain the following information:

(A) The identification of owner and operator and the permit number;

(B) The PAL requirement that experienced the deviation or that was exceeded;

(C) Emissions resulting from the deviation or the exceedance; and

(D) A signed statement by the responsible official (as defined by the applicable title V operating permit program) certifying the truth, accuracy, and completeness of the information provided in the report.

(iii) Re-validation results. The owner or operator shall submit to the reviewing authority the results of any re-validation test or method within 3 months after completion of such test or method.

(15) Transition requirements.

(i) No reviewing authority may issue a PAL that does not comply with the requirements in paragraphs (f)(1) through (15) of this section after the Administrator has approved regulations incorporating these requirements into a plan.

(ii) The reviewing authority may supersede any PAL which was established prior to the date of approval of the plan by the Administrator with a PAL that complies with the requirements of paragraphs (f)(1) through (15) of this section.

(g) If any provision of this section, or the application of such provision to any person or circumstance, is held invalid, the remainder of this section, or the application of such provision to persons or circumstances other than those as to which it is held invalid, shall not be affected thereby.

(h) Equipment replacement provision. Without regard to other considerations, routine maintenance, repair and replacement includes, but is not limited to, the replacement of any component of a process unit with an identical or functionally equivalent component(s), and maintenance and repair activities that are part of the replacement activity, provided that all of the requirements in paragraphs (h)(1) through (3) of this section are met.

(1) Capital Cost threshold for Equipment Replacement.

(i) For an electric utility steam generating unit, as defined in § 51.165(a)(1)(xx), the fixed capital cost of the replacement component(s) plus the cost of any associated maintenance and repair activities that are part of the replacement shall not exceed 20 percent of the replacement value of the process unit, at the time the equipment is replaced. For a process unit that is not an electric utility steam generating unit the fixed capital cost of the replacement component(s) plus the cost of any associated maintenance and repair activities that are part of the replacement shall not exceed 20 percent of the replacement value of the process unit, at the time the equipment is replaced.

(ii) In determining the replacement value of the process unit; and, except as otherwise allowed under paragraph (h) (1)(iii) of this section, the owner or operator shall determine the replacement value of the process unit on an estimate of the fixed capital cost of constructing a new process unit, or on the current appraised value of the process unit.

(iii) As an alternative to paragraph (h)(1)(ii) of this section for determining the replacement value of a process unit, an owner or operator may choose to use insurance value (where the insurance value covers only complete replacement), investment value adjusted for inflation, or another accounting procedure if such procedure is based on Generally Accepted Accounting Principles, provided that the owner or operator sends a notice to the reviewing authority. The first time that an owner or operator submits such a notice for a particular process unit, the notice may be submitted at any time, but any subsequent notice for that process unit may be submitted only at the beginning of the process unit's fiscal year. Unless the owner or operator submits a notice to the reviewing authority, then paragraph (h)(1)(ii) of this section will be used to establish the replacement value of the process unit. Once the owner or operator submits a notice to use an alternative accounting procedure, the owner or operator must continue to use that procedure for the entire fiscal year for that process unit. In subsequent fiscal years, the owner or operator must continue to use this selected procedure unless and until the owner or operator sends another notice to the reviewing authority selecting another procedure consistent with this paragraph or paragraph (h)(1)(ii) of this section at the beginning of such fiscal year.

(2) Basic design parameters. The replacement does not change the basic design parameter(s) of the process unit to which the activity pertains.

(i) Except as provided in paragraph (h)(2)(iii) of this section, for a process unit at a steam electric generating facility, the owner or operator may select as its basic design parameters either maximum hourly heat input and maximum hourly fuel consumption rate or maximum hourly electric output rate and maximum steam flow rate. When establishing fuel consumption specifications in terms of weight or volume, the minimum fuel quality based on British Thermal Units content shall be used for determining the basic design parameter(s) for a coal-fired electric utility steam generating unit.

(ii) Except as provided in paragraph (h)(2)(iii) of this section, the basic design parameter(s) for any process unit that is not at a steam electric generating facility are maximum rate of fuel or heat input, maximum rate of material input, or maximum rate of product output. Combustion process units will typically use maximum rate of fuel input. For sources having multiple end products and raw materials, the owner or operator should consider the primary product or primary raw material when selecting a basic design parameter.

(iii) If the owner or operator believes the basic design parameter(s) in paragraphs (h)(2)(i) and (ii) of this section is not appropriate for a specific industry or type of process unit, the owner or operator may propose to the reviewing authority an alternative basic design parameter(s) for the source's process unit(s). If the reviewing authority approves of the use of an alternative basic design parameter(s), the reviewing authority shall issue a permit that is legally enforceable that records such basic design parameter(s) and requires the owner or operator to comply with such parameter(s).

(iv) The owner or operator shall use credible information, such as results of historic maximum capability tests, design information from the manufacturer, or engineering calculations, in establishing the magnitude of the basic design parameter(s) specified in paragraphs (h)(2)(i) and (ii) of this section.

(v) If design information is not available for a process unit, then the owner or operator shall determine the process unit's basic design parameter(s) using the maximum value achieved by the process unit in the five-year period immediately preceding the planned activity.

(vi) Efficiency of a process unit is not a basic design parameter.

(3) The replacement activity shall not cause the process unit to exceed any emission limitation, or operational limitation that has the effect of constraining emissions, that applies to the process unit and that is legally enforceable.

Note to paragraph (h): By a court order on December 24, 2003, this paragraph (h) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(i) Public participation requirements. The reviewing authority shall notify the public of a draft permit by a method described in either paragraph (i)(1) or (2) of this section. The selected method, known as the "consistent noticing method," shall comply with the public participation procedural requirements of § 51.161 of this chapter and be used for all permits issued under this section and may, when appropriate, be supplemented by other noticing methods on individual permits.

(1) Post the information in paragraphs (i)(1)(i) through (iii) of this section, for the duration of the public comment period, on a public Web site identified by the reviewing authority.

(i) A notice of availability of the draft permit for public comment;

(ii) The draft permit; and

(iii) Information on how to access the administrative record for the draft permit.

(2) Publish a notice of availability of the draft permit for public comment in a newspaper of general circulation in the area where the source is located. The notice shall include information on how to access the draft permit and the administrative record for the draft permit.

Credits

[52 FR 24713, July 1, 1987; 52 FR 29386, Aug. 7, 1987; 54 FR 27285, 27299, June 28, 1989; 57 FR 3946, Feb. 3, 1992; 57 FR 32334, July 21, 1992; 67 FR 80244, Dec. 31, 2002; 68 FR 61276, Oct. 27, 2003; 68 FR 63027, Nov. 7, 2003; 69 FR 40275, July 1, 2004; 70 FR 71698, Nov. 29, 2005; 72 FR 24077, May 1, 2007; 72 FR 32528, June 13, 2007; 72 FR 72616, Dec. 21, 2007; 73 FR 28347, May 16, 2008; 73 FR 77895, Dec. 19, 2008; 74 FR 50116, Sept. 30, 2009; 74 FR 65694, Dec. 11, 2009; 75 FR 16015, March 31, 2010; 75 FR 64902, Oct. 20, 2010; 76 FR 17552, March 30, 2011; 80 FR 12318, March 6, 2015; 81 FR 35632, June 3, 2016; 81 FR 58150, Aug. 24, 2016; 81 FR 71629, Oct. 18, 2016]

AUTHORITY: 23 U.S.C. 101; 42 U.S.C. 7401–7671q.

Notes of Decisions (16)

Current through November 2, 2018; 83 FR 55110.

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter C. Air Programs

Part 51. Requirements for Preparation, Adoption, and Submittal of Implementation Plans (Refs & Annos)

Subpart I. Review of New Sources and Modifications (Refs & Annos)

40 C.F.R. § 51.166

§ 51.166 Prevention of significant deterioration of air quality.

Effective: November 17, 2016

Currentness

(a)(1) Plan requirements. In accordance with the policy of section 101(b)(1) of the Act and the purposes of section 160 of the Act, each applicable State Implementation Plan and each applicable Tribal Implementation Plan shall contain emission limitations and such other measures as may be necessary to prevent significant deterioration of air quality.

(2) Plan revisions. If a State Implementation Plan revision would result in increased air quality deterioration over any baseline concentration, the plan revision shall include a demonstration that it will not cause or contribute to a violation of the applicable increment(s). If a plan revision proposing less restrictive requirements was submitted after August 7, 1977 but on or before any applicable baseline date and was pending action by the Administrator on that date, no such demonstration is necessary with respect to the area for which a baseline date would be established before final action is taken on the plan revision. Instead, the assessment described in paragraph (a)(4) of this section, shall review the expected impact to the applicable increment(s).

(3) Required plan revision. If the State or the Administrator determines that a plan is substantially inadequate to prevent significant deterioration or that an applicable increment is being violated, the plan shall be revised to correct the inadequacy or the violation. The plan shall be revised within 60 days of such a finding by a State or within 60 days following notification by the Administrator, or by such later date as prescribed by the Administrator after consultation with the State.

(4) Plan assessment. The State shall review the adequacy of a plan on a periodic basis and within 60 days of such time as information becomes available that an applicable increment is being violated.

(5) Public participation. Any State action taken under this paragraph shall be subject to the opportunity for public hearing in accordance with procedures equivalent to those established in § 51.102.

(6) Amendments.

(i) Any State required to revise its implementation plan by reason of an amendment to this section, with the exception of amendments to add new maximum allowable increases or other measures pursuant to section 166(a) of the Act, shall adopt and submit such plan revision to the Administrator for approval no later than 3 years after such

amendment is published in the Federal Register. With regard to a revision to an implementation plan by reason of an amendment to paragraph (c) of this section to add maximum allowable increases or other measures, the State shall submit such plan revision to the Administrator for approval within 21 months after such amendment is published in the Federal Register.

(ii) Any revision to an implementation plan that would amend the provisions for the prevention of significant air quality deterioration in the plan shall specify when and as to what sources and modifications the revision is to take effect.

(iii) Any revision to an implementation plan that an amendment to this section required shall take effect no later than the date of its approval and may operate prospectively.

(7) Applicability. Each plan shall contain procedures that incorporate the requirements in paragraphs (a)(7)(i) through (vi) of this section.

(i) The requirements of this section apply to the construction of any new major stationary source (as defined in paragraph (b)(1) of this section) or any project at an existing major stationary source in an area designated as attainment or unclassifiable under sections 107(d)(1)(A)(ii) or (iii) of the Act.

(ii) The requirements of paragraphs (j) through (r) of this section apply to the construction of any new major stationary source or the major modification of any existing major stationary source, except as this section otherwise provides.

(iii) No new major stationary source or major modification to which the requirements of paragraphs (j) through (r) (5) of this section apply shall begin actual construction without a permit that states that the major stationary source or major modification will meet those requirements.

(iv) Each plan shall use the specific provisions of paragraphs (a)(7)(iv)(a) through (f) of this section. Deviations from these provisions will be approved only if the State specifically demonstrates that the submitted provisions are more stringent than or at least as stringent in all respects as the corresponding provisions in paragraphs (a)(7)(iv) (a) through (f) of this section.

(a) Except as otherwise provided in paragraphs (a)(7)(v) and (vi) of this section, and consistent with the definition of major modification contained in paragraph (b)(2) of this section, a project is a major modification for a regulated NSR pollutant if it causes two types of emissions increases—a significant emissions increase (as defined in paragraph (b)(39) of this section), and a significant net emissions increase (as defined in paragraphs (b)(3) and (b)(23) of this section). The project is not a major modification if it does not cause a significant emissions increase. If the project causes a significant emissions increase, then the project is a major modification only if it also results in a significant net emissions increase.

(b) The procedure for calculating (before beginning actual construction) whether a significant emissions increase (i.e., the first step of the process) will occur depends upon the type of emissions units being modified, according to paragraphs (a)(7)(iv)(c) through (f) of this section. The procedure for calculating (before beginning

actual construction) whether a significant net emissions increase will occur at the major stationary source (i.e., the second step of the process) is contained in the definition in paragraph (b)(3) of this section. Regardless of any such preconstruction projections, a major modification results if the project causes a significant emissions increase and a significant net emissions increase.

(c) Actual-to-projected-actual applicability test for projects that only involve existing emissions units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the projected actual emissions (as defined in paragraph (b)(40) of this section) and the baseline actual emissions (as defined in paragraphs (b)(47)(i) and (ii) of this section) for each existing emissions unit, equals or exceeds the significant amount for that pollutant (as defined in paragraph (b)(23) of this section).

(d) Actual-to-potential test for projects that only involve construction of a new emissions unit(s). A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the potential to emit (as defined in paragraph (b)(4) of this section) from each new emissions unit following completion of the project and the baseline actual emissions (as defined in paragraph (b)(47)(iii) of this section) of these units before the project equals or exceeds the significant amount for that pollutant (as defined in paragraph (b)(23) of this section).

(e) [Reserved]

(f) Hybrid test for projects that involve multiple types of emissions units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the emissions increases for each emissions unit, using the method specified in paragraphs (a)(7)(iv)(c) through (d) of this section as applicable with respect to each emissions unit, for each type of emissions unit equals or exceeds the significant amount for that pollutant (as defined in paragraph (b)(23) of this section).

(v) The plan shall require that for any major stationary source for a PAL for a regulated NSR pollutant, the major stationary source shall comply with requirements under paragraph (w) of this section.

(vi) [Reserved]

(b) Definitions. All State plans shall use the following definitions for the purposes of this section. Deviations from the following wording will be approved only if the State specifically demonstrates that the submitted definition is more stringent, or at least as stringent, in all respects as the corresponding definitions below:

(1)(i) Major stationary source means:

(a) Any of the following stationary sources of air pollutants which emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant: Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants (with thermal dryers), primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock

processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants (which does not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140), fossil-fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants, and charcoal production plants;

(b) Notwithstanding the stationary source size specified in paragraph (b)(1)(i)(a) of this section, any stationary source which emits, or has the potential to emit, 250 tons per year or more of a regulated NSR pollutant; or

(c) Any physical change that would occur at a stationary source not otherwise qualifying under paragraph (b)(1) of this section, as a major stationary source if the change would constitute a major stationary source by itself.

(ii) A major source that is major for volatile organic compounds or NO_x shall be considered major for ozone.

(iii) The fugitive emissions of a stationary source shall not be included in determining for any of the purposes of this section whether it is a major stationary source, unless the source belongs to one of the following categories of stationary sources:

(a) Coal cleaning plants (with thermal dryers);

(b) Kraft pulp mills;

(c) Portland cement plants;

(d) Primary zinc smelters;

(e) Iron and steel mills;

(f) Primary aluminum ore reduction plants;

(g) Primary copper smelters;

(h) Municipal incinerators capable of charging more than 250 tons of refuse per day;

(i) Hydrofluoric, sulfuric, or nitric acid plants;

(j) Petroleum refineries;

- (k) Lime plants;
- (l) Phosphate rock processing plants;
- (m) Coke oven batteries;
- (n) Sulfur recovery plants;
- (o) Carbon black plants (furnace process);
- (p) Primary lead smelters;
- (q) Fuel conversion plants;
- (r) Sintering plants;
- (s) Secondary metal production plants;
- (t) Chemical process plants—The term chemical processing plant shall not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140;
- (u) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
- (v) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
- (w) Taconite ore processing plants;
- (x) Glass fiber processing plants;
- (y) Charcoal production plants;
- (z) Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input;
- (aa) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act.

(2)(i) Major modification means any physical change in or change in the method of operation of a major stationary source that would result in: a significant emissions increase (as defined in paragraph (b)(39) of this section) of a regulated NSR pollutant (as defined in paragraph (b)(49) of this section); and a significant net emissions increase of that pollutant from the major stationary source.

(ii) Any significant emissions increase (as defined at paragraph (b)(39) of this section) from any emissions units or net emissions increase (as defined in paragraph (b)(3) of this section) at a major stationary source that is significant for volatile organic compounds or NO_x shall be considered significant for ozone.

(iii) A physical change or change in the method of operation shall not include:

(a) Routine maintenance, repair and replacement. Routine maintenance, repair and replacement shall include, but not be limited to, any activity(s) that meets the requirements of the equipment replacement provisions contained in paragraph (y) of this section;

Note to paragraph (b)(2)(iii)(a): On December 24, 2003, the second sentence of this paragraph (b)(2)(iii)(a) is stayed indefinitely by court order. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(b) Use of an alternative fuel or raw material by reason of any order under section 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;

(c) Use of an alternative fuel by reason of an order or rule under section 125 of the Act;

(d) Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste;

(e) Use of an alternative fuel or raw material by a stationary source which:

(1) The source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975 pursuant to [40 CFR 52.21](#) or under regulations approved pursuant to 40 CFR subpart I or § 51.166; or

(2) The source is approved to use under any permit issued under [40 CFR 52.21](#) or under regulations approved pursuant to 40 CFR 51.166;

(f) An increase in the hours of operation or in the production rate, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to [40 CFR 52.21](#) or under regulations approved pursuant to 40 CFR subpart I or § 51.166.

(g) Any change in ownership at a stationary source.

(h) [Reserved]

(i) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with:

(1) The State implementation plan for the State in which the project is located; and

(2) Other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.

(j) The installation or operation of a permanent clean coal technology demonstration project that constitutes repowering, provided that the project does not result in an increase in the potential to emit of any regulated pollutant emitted by the unit. This exemption shall apply on a pollutant-by-pollutant basis.

(k) The reactivation of a very clean coal-fired electric utility steam generating unit.

(iv) This definition shall not apply with respect to a particular regulated NSR pollutant when the major stationary source is complying with the requirements under paragraph (w) of this section for a PAL for that pollutant. Instead, the definition at paragraph (w)(2)(viii) of this section shall apply.

<Text of subsection (b)(2)(v) stayed effective March 30, 2011.>

(v) Fugitive emissions shall not be included in determining for any of the purposes of this section whether a physical change in or change in the method of operation of a major stationary source is a major modification, unless the source belongs to one of the source categories listed in paragraph (b)(1)(iii) of this section.

(3)(i) Net emissions increase means, with respect to any regulated NSR pollutant emitted by a major stationary source, the amount by which the sum of the following exceeds zero:

(a) The increase in emissions from a particular physical change or change in the method of operation at a stationary source as calculated pursuant to paragraph (a)(7)(iv) of this section; and

(b) Any other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable. Baseline actual emissions for calculating increases and decreases under this paragraph (b)(3)(i)(b) shall be determined as provided in paragraph (b)(47), except that paragraphs (b)(47)(i)(c) and (b)(47)(ii)(d) of this section shall not apply.

(ii) An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs within a reasonable period (to be specified by the State) before the date that the increase from the particular change occurs.

(iii) An increase or decrease in actual emissions is creditable only if:

(a) It occurs within a reasonable period (to be specified by the reviewing authority); and

(b) The reviewing authority has not relied on it in issuing a permit for the source under regulations approved pursuant to this section, which permit is in effect when the increase in actual emissions from the particular change occurs; and

(c) The increase or decrease in emissions did not occur at a Clean Unit, except as provided in paragraphs (t) (8) and (u)(10) of this section.

<Text of subsection (b)(3)(iii)(d) stayed effective March 30, 2011.>

(d) As it pertains to an increase or decrease in fugitive emissions (to the extent quantifiable), it occurs at an emissions unit that is part of one of the source categories listed in paragraph (b)(1)(iii) of this section or it occurs at an emission unit that is located at a major stationary source that belongs to one of the listed source categories. Fugitive emission increases or decreases are not included for those emissions units located at a facility whose primary activity is not represented by one of the source categories listed in paragraph (b)(1)(iii) of this section and that are not, by themselves, part of a listed source category.

(iv) An increase or decrease in actual emissions of sulfur dioxide, particulate matter, or nitrogen oxides that occurs before the applicable minor source baseline date is creditable only if it is required to be considered in calculating the amount of maximum allowable increases remaining available.

(v) An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.

(vi) A decrease in actual emissions is creditable only to the extent that:

(a) The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions;

(b) It is enforceable as a practical matter at and after the time that actual construction on the particular change begins;

(c) It has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change; and

(d) [Reserved]

(vii) An increase that results from a physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days.

(viii) Paragraph (b)(21)(ii) of this section shall not apply for determining creditable increases and decreases.

(4) Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.

(5) Stationary source means any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant.

(6)(i) Building, structure, facility, or installation means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same Major Group (i.e., which have the same two-digit code) as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office stock numbers 4101-0066 and 003-005-00176-0, respectively).

(ii) The plan may include the following provision: Notwithstanding the provisions of paragraph (b)(6)(i) of this section, building, structure, facility, or installation means, for onshore activities under SIC Major Group 13: Oil and Gas Extraction, all of the pollutant-emitting activities included in Major Group 13 that are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant emitting activities shall be considered adjacent if they are located on the same surface site; or if they are located on surface sites that are located within $\frac{1}{4}$ mile of one another (measured from the center of the equipment on the surface site) and they share equipment. Shared equipment includes, but is not limited to, produced fluids storage tanks, phase separators, natural gas dehydrators or emissions control devices. Surface site, as used in this paragraph (b)(6)(ii), has the same meaning as in [40 CFR 63.761](#).

(7) Emissions unit means any part of a stationary source that emits or would have the potential to emit any regulated NSR pollutant and includes an electric utility steam generating unit as defined in paragraph (b)(30) of this section. For purposes of this section, there are two types of emissions units as described in paragraphs (b)(7)(i) and (ii) of this section.

(i) A new emissions unit is any emissions unit that is (or will be) newly constructed and that has existed for less than 2 years from the date such emissions unit first operated.

(ii) An existing emissions unit is any emissions unit that does not meet the requirements in paragraph (b)(7)(i) of this section. A replacement unit, as defined in paragraph (b)(32) of this section, is an existing emissions unit.

(8) Construction means any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of an emissions unit) that would result in a change in emissions.

(9) Commence as applied to construction of a major stationary source or major modification means that the owner or operator has all necessary preconstruction approvals or permits and either has:

(i) Begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time; or

(ii) Entered into binding agreements or contractual obligations, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time.

(10) Necessary preconstruction approvals or permits means those permits or approvals required under Federal air quality control laws and regulations and those air quality control laws and regulations which are part of the applicable State Implementation Plan.

(11) Begin actual construction means, in general, initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures. With respect to a change in method of operation this term refers to those on-site activities, other than preparatory activities, which mark the initiation of the change.

(12) Best available control technology means an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each a regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification which the reviewing authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combination techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR parts 60 and 61. If the reviewing authority determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.

(13)(i) Baseline concentration means that ambient concentration level that exists in the baseline area at the time of the applicable minor source baseline date. A baseline concentration is determined for each pollutant for which a minor source baseline date is established and shall include:

(a) The actual emissions, as defined in paragraph (b)(21) of this section, representative of sources in existence on the applicable minor source baseline date, except as provided in paragraph (b)(13)(ii) of this section;

(b) The allowable emissions of major stationary sources that commenced construction before the major source baseline date, but were not in operation by the applicable minor source baseline date.

(ii) The following will not be included in the baseline concentration and will affect the applicable maximum allowable increase(s):

(a) Actual emissions, as defined in paragraph (b)(21) of this section, from any major stationary source on which construction commenced after the major source baseline date; and

(b) Actual emissions increases and decreases, as defined in paragraph (b)(21) of this section, at any stationary source occurring after the minor source baseline date.

(14)(i) Major source baseline date means:

(a) In the case of PM₁₀ and sulfur dioxide, January 6, 1975;

(b) In the case of nitrogen dioxide, February 8, 1988; and

(c) In the case of PM_{2.5}, October 20, 2010.

(ii) Minor source baseline date means the earliest date after the trigger date on which a major stationary source or a major modification subject to [40 CFR 52.21](#) or to regulations approved pursuant to 40 CFR 51.166 submits a complete application under the relevant regulations. The trigger date is:

(a) In the case of PM₁₀ and sulfur dioxide, August 7, 1977;

(b) In the case of nitrogen dioxide, February 8, 1988; and

(c) In the case of PM_{2.5}, October 20, 2011.

(iii) The baseline date is established for each pollutant for which increments or other equivalent measures have been established if:

(a) The area in which the proposed source or modification would construct is designated as attainment or unclassifiable under section 107(d)(1)(A)(ii) or (iii) of the Act for the pollutant on the date of its complete application under [40 CFR 52.21](#) or under regulations approved pursuant to 40 CFR 51.166; and

(b) In the case of a major stationary source, the pollutant would be emitted in significant amounts, or, in the case of a major modification, there would be a significant net emissions increase of the pollutant.

(iv) Any minor source baseline date established originally for the TSP increments shall remain in effect and shall apply for purposes of determining the amount of available PM₁₀ increments, except that the reviewing authority may rescind any such minor source baseline date where it can be shown, to the satisfaction of the reviewing authority, that the emissions increase from the major stationary source, or the net emissions increase from the major modification, responsible for triggering that date did not result in a significant amount of PM₁₀ emissions.

(15)(i) Baseline area means any intrastate area (and every part thereof) designated as attainment or unclassifiable under section 107(d)(1)(A)(ii) or (iii) of the Act in which the major source or major modification establishing the minor source baseline date would construct or would have an air quality impact for the pollutant for which the baseline date is established, as follows: Equal to or greater than 1 µg/m³ (annual average) for SO₂, NO₂, or PM₁₀; or equal to or greater than 0.3 µg/m³ (annual average) for PM_{2.5}.

(ii) Area redesignations under section 107(d)(1)(A)(ii) or (iii) of the Act cannot intersect or be smaller than the area of impact of any major stationary source or major modification which:

(a) Establishes a minor source baseline date; or

(b) Is subject to [40 CFR 52.21](#) or under regulations approved pursuant to 40 CFR 51.166, and would be constructed in the same State as the State proposing the redesignation.

(iii) Any baseline area established originally for the TSP increments shall remain in effect and shall apply for purposes of determining the amount of available PM₁₀ increments, except that such baseline area shall not remain in effect if the permit authority rescinds the corresponding minor source baseline date in accordance with paragraph (b)(14)(iv) of this section.

(16) Allowable emissions means the emissions rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to federally enforceable limits which restrict the operating rate, or hours of operation, or both) and the most stringent of the following:

(i) The applicable standards as set forth in 40 CFR parts 60 and 61;

- (ii) The applicable State Implementation Plan emissions limitation, including those with a future compliance date; or
- (iii) The emissions rate specified as a federally enforceable permit condition.

(17) Federally enforceable means all limitations and conditions which are enforceable by the Administrator, including those requirements developed pursuant to 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, any permit requirements established pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR part 51, subpart I, including operating permits issued under an EPA-approved program that is incorporated into the State implementation plan and expressly requires adherence to any permit issued under such program.

(18) Secondary emissions means emissions which occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source or major modification itself. For the purposes of this section, secondary emissions must be specific, well defined, quantifiable, and impact the same general areas the stationary source modification which causes the secondary emissions. Secondary emissions include emissions from any offsite support facility which would not be constructed or increase its emissions except as a result of the construction or operation of the major stationary source or major modification. Secondary emissions do not include any emissions which come directly from a mobile source, such as emissions from the tailpipe of a motor vehicle, from a train, or from a vessel.

(19) Innovative control technology means any system of air pollution control that has not been adequately demonstrated in practice, but would have a substantial likelihood of achieving greater continuous emissions reduction than any control system in current practice or of achieving at least comparable reductions at lower cost in terms of energy, economics, or nonair quality environmental impacts.

(20) Fugitive emissions means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

(21)(i) Actual emissions means the actual rate of emissions of a regulated NSR pollutant from an emissions unit, as determined in accordance with paragraphs (b)(21)(ii) through (iv) of this section, except that this definition shall not apply for calculating whether a significant emissions increase has occurred, or for establishing a PAL under paragraph (w) of this section. Instead, paragraphs (b)(40) and (b)(47) of this section shall apply for those purposes.

(ii) In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date and which is representative of normal source operation. The reviewing authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.

(iii) The reviewing authority may presume that source-specific allowable emissions for the unit are equivalent to the actual emissions of the unit.

(iv) For any emissions unit that has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date.

(22) Complete means, in reference to an application for a permit, that the application contains all the information necessary for processing the application. Designating an application complete for purposes of permit processing does not preclude the reviewing authority from requesting or accepting any additional information.

(23)(i) Significant means, in reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:

Pollutant and Emissions Rate

Carbon monoxide: 100 tons per year (tpy)

Nitrogen oxides: 40 tpy

Sulfur dioxide: 40 tpy

Particulate matter: 25 tpy of particulate matter emissions. 15 tpy of PM₁₀ emissions

PM_{2.5}: 10 tpy of direct PM_{2.5} emissions; 40 tpy of sulfur dioxide emissions; 40 tpy of nitrogen oxide emissions unless demonstrated not to be a PM_{2.5} precursor under paragraph (b)(49) of this section

Ozone: 40 tpy of volatile organic compounds or nitrogen oxides

Lead: 0.6 tpy

Fluorides: 3 tpy

Sulfuric acid mist: 7 tpy

Hydrogen sulfide (H₂S): 10 tpy

Total reduced sulfur (including H₂S): 10 tpy

Reduced sulfur compounds (including H₂S): 10 tpy

Municipal waste combustor organics (measured as total tetra-through octa-chlorinated dibenzo-p-dioxins and dibenzofurans): 3.2×10^{-6} megagrams per year (3.5×10^{-6} tons per year)

Municipal waste combustor metals (measured as particulate matter): 14 megagrams per year (15 tons per year)

Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride): 36 megagrams per year (40 tons per year)

Municipal solid waste landfill emissions (measured as nonmethane organic compounds): 45 megagrams per year (50 tons per year)

(ii) Significant means, in reference to a net emissions increase or the potential of a source to emit a regulated NSR pollutant that paragraph (b)(23)(i) of this section, does not list, any emissions rate.

(iii) Notwithstanding paragraph (b)(23)(i) of this section, significant means any emissions rate or any net emissions increase associated with a major stationary source or major modification, which would construct within 10 kilometers of a Class I area, and have an impact on such area equal to or greater than $1 \mu\text{g}/\text{m}^3$ (24-hour average).

(24) Federal Land Manager means, with respect to any lands in the United States, the Secretary of the department with authority over such lands.

(25) High terrain means any area having an elevation 900 feet or more above the base of the stack of a source.

(26) Low terrain means any area other than high terrain.

(27) Indian Reservation means any federally recognized reservation established by Treaty, Agreement, Executive Order, or Act of Congress.

(28) Indian Governing Body means the governing body of any tribe, band, or group of Indians subject to the jurisdiction of the United States and recognized by the United States as possessing power of self-government.

(29) Volatile organic compounds (VOC) is as defined in § 51.100(s) of this part.

(30) Electric utility steam generating unit means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

(31) [Reserved]

(32) Replacement unit means an emissions unit for which all the criteria listed in paragraphs (b)(32)(i) through (iv) of this section are met. No creditable emission reductions shall be generated from shutting down the existing emissions unit that is replaced.

(i) The emissions unit is a reconstructed unit within the meaning of § 60.15(b)(1) of this chapter, or the emissions unit completely takes the place of an existing emissions unit.

(ii) The emissions unit is identical to or functionally equivalent to the replaced emissions unit.

(iii) The replacement does not change the basic design parameter(s) (as discussed in paragraph (y)(2) of this section) of the process unit.

(iv) The replaced emissions unit is permanently removed from the major stationary source, otherwise permanently disabled, or permanently barred from operation by a permit that is enforceable as a practical matter. If the replaced emissions unit is brought back into operation, it shall constitute a new emissions unit.

(33) Clean coal technology means any technology, including technologies applied at the precombustion, combustion, or post combustion stage, at a new or existing facility which will achieve significant reductions in air emissions of sulfur dioxide or oxides of nitrogen associated with the utilization of coal in the generation of electricity, or process steam which was not in widespread use as of November 15, 1990.

(34) Clean coal technology demonstration project means a project using funds appropriated under the heading “Department of Energy—Clean Coal Technology”, up to a total amount of \$2,500,000,000 for commercial demonstration of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency. The Federal contribution for a qualifying project shall be at least 20 percent of the total cost of the demonstration project.

(35) Temporary clean coal technology demonstration project means a clean coal technology demonstration project that is operated for a period of 5 years or less, and which complies with the State implementation plan for the State in which the project is located and other requirements necessary to attain and maintain the national ambient air quality standards during and after the project is terminated.

(36)(i) Repowering means replacement of an existing coal-fired boiler with one of the following clean coal technologies: atmospheric or pressurized fluidized bed combustion, integrated gasification combined cycle, magnetohydrodynamics, direct and indirect coal-fired turbines, integrated gasification fuel cells, or as determined by the Administrator, in consultation with the Secretary of Energy, a derivative of one or more of these technologies, and any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of November 15, 1990.

(ii) Repowering shall also include any oil and/or gas-fired unit which has been awarded clean coal technology demonstration funding as of January 1, 1991, by the Department of Energy.

(iii) The reviewing authority shall give expedited consideration to permit applications for any source that satisfies the requirements of this subsection and is granted an extension under section 409 of the Clean Air Act.

(37) Reactivation of a very clean coal-fired electric utility steam generating unit means any physical change or change in the method of operation associated with the commencement of commercial operations by a coal-fired utility unit after a period of discontinued operation where the unit:

(i) Has not been in operation for the two-year period prior to the enactment of the Clean Air Act Amendments of 1990, and the emissions from such unit continue to be carried in the permitting authority's emissions inventory at the time of enactment;

(ii) Was equipped prior to shutdown with a continuous system of emissions control that achieves a removal efficiency for sulfur dioxide of no less than 85 percent and a removal efficiency for particulates of no less than 98 percent;

(iii) Is equipped with low-NO_x burners prior to the time of commencement of operations following reactivation; and

(iv) Is otherwise in compliance with the requirements of the Clean Air Act.

(38) Pollution prevention means any activity that through process changes, product reformulation or redesign, or substitution of less polluting raw materials, eliminates or reduces the release of air pollutants (including fugitive emissions) and other pollutants to the environment prior to recycling, treatment, or disposal; it does not mean recycling (other than certain "in-process recycling" practices), energy recovery, treatment, or disposal.

(39) Significant emissions increase means, for a regulated NSR pollutant, an increase in emissions that is significant (as defined in paragraph (b)(23) of this section) for that pollutant.

(40)(i) Projected actual emissions means the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one of the 5 years (12-month period) following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that regulated NSR pollutant, and full utilization of the unit would result in a significant emissions increase, or a significant net emissions increase at the major stationary source.

(ii) In determining the projected actual emissions under paragraph (b)(40)(i) of this section (before beginning actual construction), the owner or operator of the major stationary source:

(a) Shall consider all relevant information, including but not limited to, historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the State or Federal regulatory authorities, and compliance plans under the approved plan; and

(b) Shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions; and

(c) Shall exclude, in calculating any increase in emissions that results from the particular project, that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions under paragraph (b)(47) of this section and

that are also unrelated to the particular project, including any increased utilization due to product demand growth; or,

(d) In lieu of using the method set out in paragraphs (b)(40)(ii)(a) through (c) of this section, may elect to use the emissions unit's potential to emit, in tons per year, as defined under paragraph (b)(4) of this section.

(41) [Reserved]

(42) Prevention of Significant Deterioration Program (PSD) program means a major source preconstruction permit program that has been approved by the Administrator and incorporated into the plan to implement the requirements of this section, or the program in § 52.21 of this chapter. Any permit issued under such a program is a major NSR permit.

(43) Continuous emissions monitoring system (CEMS) means all of the equipment that may be required to meet the data acquisition and availability requirements of this section, to sample, condition (if applicable), analyze, and provide a record of emissions on a continuous basis.

(44) Predictive emissions monitoring system (PEMS) means all of the equipment necessary to monitor process and control device operational parameters (for example, control device secondary voltages and electric currents) and other information (for example, gas flow rate, O² or CO² concentrations), and calculate and record the mass emissions rate (for example, lb/hr) on a continuous basis.

(45) Continuous parameter monitoring system (CPMS) means all of the equipment necessary to meet the data acquisition and availability requirements of this section, to monitor process and control device operational parameters (for example, control device secondary voltages and electric currents) and other information (for example, gas flow rate, O² or CO² concentrations), and to record average operational parameter value(s) on a continuous basis.

(46) Continuous emissions rate monitoring system (CERMS) means the total equipment required for the determination and recording of the pollutant mass emissions rate (in terms of mass per unit of time).

(47) Baseline actual emissions means the rate of emissions, in tons per year, of a regulated NSR pollutant, as determined in accordance with paragraphs (b)(47)(i) through (iv) of this section.

(i) For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding when the owner or operator begins actual construction of the project. The reviewing authority shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

(a) The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions.

(b) The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive 24-month period.

(c) For a regulated NSR pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. A different consecutive 24-month period can be used For each regulated NSR pollutant.

(d) The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by paragraph (b)(47)(i)(b) of this section.

(ii) For an existing emissions unit (other than an electric utility steam generating unit), baseline actual emissions means the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received by the reviewing authority for a permit required either under this section or under a plan approved by the Administrator, whichever is earlier, except that the 10-year period shall not include any period earlier than November 15, 1990.

(a) The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions.

(b) The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive 24-month period.

(c) The average rate shall be adjusted downward to exclude any emissions that would have exceeded an emission limitation with which the major stationary source must currently comply, had such major stationary source been required to comply with such limitations during the consecutive 24-month period. However, if an emission limitation is part of a maximum achievable control technology standard that the Administrator proposed or promulgated under part 63 of this chapter, the baseline actual emissions need only be adjusted if the State has taken credit for such emissions reductions in an attainment demonstration or maintenance plan consistent with the requirements of § 51.165(a)(3)(ii)(G).

(d) For a regulated NSR pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. A different consecutive 24-month period can be used For each regulated NSR pollutant.

- (e) The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by paragraphs (b)(47)(ii)(b) and (c) of this section.
- (iii) For a new emissions unit, the baseline actual emissions for purposes of determining the emissions increase that will result from the initial construction and operation of such unit shall equal zero; and thereafter, for all other purposes, shall equal the unit's potential to emit.
- (iv) For a PAL for a stationary source, the baseline actual emissions shall be calculated for existing electric utility steam generating units in accordance with the procedures contained in paragraph (b)(47)(i) of this section, for other existing emissions units in accordance with the procedures contained in paragraph (b)(47)(ii) of this section, and for a new emissions unit in accordance with the procedures contained in paragraph (b)(47)(iii) of this section.
- (48) Subject to regulation means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of this chapter, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:
- (i) Greenhouse gases (GHGs), the air pollutant defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation except as provided in paragraphs (b)(48)(iv) through (v) of this section.
- (ii) For purposes of paragraphs (b)(48)(iii) through (v) of this section, the term tpy CO₂ equivalent emissions (CO₂e) shall represent an amount of GHGs emitted, and shall be computed as follows:
- (a) Multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter—Global Warming Potentials. For purposes of this paragraph (b)(48)(ii)(a), prior to July 21, 2014, the mass of the greenhouse gas carbon dioxide shall not include carbon dioxide emissions resulting from the combustion or decomposition of non-fossilized and biodegradable organic material originating from plants, animals, or micro-organisms (including products, by-products, residues and waste from agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material).
- (b) Sum the resultant value from paragraph (b)(48)(ii)(a) of this section for each gas to compute a tpy CO₂e.
- (iii) The term emissions increase as used in paragraphs (b)(48)(iv) through (v) of this section shall mean that both a significant emissions increase (as calculated using the procedures in (a)(7)(iv) of this section) and a significant net emissions increase (as defined in paragraphs (b)(3) and (b)(23) of this section) occur. For the pollutant GHGs, an

emissions increase shall be based on tpy CO₂e, and shall be calculated assuming the pollutant GHGs is a regulated NSR pollutant, and “significant” is defined as 75,000 tpy CO₂e instead of applying the value in paragraph (b)(23)(ii) of this section.

(iv) Beginning January 2, 2011, the pollutant GHGs is subject to regulation if:

(a) The stationary source is a new major stationary source for a regulated NSR pollutant that is not GHGs, and also will emit or will have the potential to emit 75,000 tpy CO₂e or more; or

(b) The stationary source is an existing major stationary source for a regulated NSR pollutant that is not GHGs, and also will have an emissions increase of a regulated NSR pollutant, and an emissions increase of 75,000 tpy CO₂e or more; and,

(49) Regulated NSR pollutant, for purposes of this section, means the following:

(i) Any pollutant for which a national ambient air quality standard has been promulgated. This includes, but is not limited to, the following:

(a) PM_{2.5} emissions and PM₁₀ emissions shall include gaseous emissions from a source or activity which condense to form particulate matter at ambient temperatures. On or after January 1, 2011, such condensable particulate matter shall be accounted for in applicability determinations and in establishing emissions limitations for PM_{2.5} and PM₁₀ in PSD permits. Compliance with emissions limitations for PM_{2.5} and PM₁₀ issued prior to this date shall not be based on condensable particulate matter unless required by the terms and conditions of the permit or the applicable implementation plan. Applicability determinations made prior to this date without accounting for condensable particulate matter shall not be considered in violation of this section unless the applicable implementation plan required condensable particulate matter to be included;

(b) Any pollutant identified under this paragraph (b)(49)(i)(b) as a constituent or precursor to a pollutant for which a national ambient air quality standard has been promulgated. Precursors identified by the Administrator for purposes of NSR are the following:

(1) Volatile organic compounds and nitrogen oxides are precursors to ozone in all attainment and unclassifiable areas.

(2) Sulfur dioxide is a precursor to PM_{2.5} in all attainment and unclassifiable areas.

(3) Nitrogen oxides are presumed to be precursors to PM_{2.5} in all attainment and unclassifiable areas, unless the State demonstrates to the Administrator's satisfaction or EPA demonstrates that emissions of nitrogen oxides from sources in a specific area are not a significant contributor to that area's ambient PM_{2.5} concentrations.

(4) Volatile organic compounds are presumed not to be precursors to PM_{2.5} in any attainment or unclassifiable area, unless the State demonstrates to the Administrator's satisfaction or EPA demonstrates that emissions of volatile organic compounds from sources in a specific area are a significant contributor to that area's ambient PM_{2.5} concentrations.

(ii) Any pollutant that is subject to any standard promulgated under section 111 of the Act;

(iii) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act;

(iv) Any pollutant that otherwise is subject to regulation under the Act as defined in paragraph (b)(48) of this section.

(v) Notwithstanding paragraphs (b)(49)(i) through (iv) of this section, the term regulated NSR pollutant shall not include any or all hazardous air pollutants either listed in section 112 of the Act, or added to the list pursuant to section 112(b)(2) of the Act, and which have not been delisted pursuant to section 112(b)(3) of the Act, unless the listed hazardous air pollutant is also regulated as a constituent or precursor of a general pollutant listed under section 108 of the Act.

(50) Reviewing authority means the State air pollution control agency, local agency, other State agency, Indian tribe, or other agency authorized by the Administrator to carry out a permit program under § 51.165 and this section, or the Administrator in the case of EPA-implemented permit programs under § 52.21 of this chapter.

(51) Project means a physical change in, or change in method of operation of, an existing major stationary source.

(52) Lowest achievable emission rate (LAER) is as defined in § 51.165(a)(1)(xiii).

(53)(i) In general, process unit means any collection of structures and/or equipment that processes, assembles, applies, blends, or otherwise uses material inputs to produce or store an intermediate or a completed product. A single stationary source may contain more than one process unit, and a process unit may contain more than one emissions unit.

(ii) Pollution control equipment is not part of the process unit, unless it serves a dual function as both process and control equipment. Administrative and warehousing facilities are not part of the process unit.

(iii) For replacement cost purposes, components shared between two or more process units are proportionately allocated based on capacity.

(iv) The following list identifies the process units at specific categories of stationary sources.

(a) For a steam electric generating facility, the process unit consists of those portions of the plant that contribute directly to the production of electricity. For example, at a pulverized coal-fired facility, the process unit would

generally be the combination of those systems from the coal receiving equipment through the emission stack (excluding post-combustion pollution controls), including the coal handling equipment, pulverizers or coal crushers, feedwater heaters, ash handling, boiler, burners, turbine-generator set, condenser, cooling tower, water treatment system, air preheaters, and operating control systems. Each separate generating unit is a separate process unit.

(b) For a petroleum refinery, there are several categories of process units: those that separate and/or distill petroleum feedstocks; those that change molecular structures; petroleum treating processes; auxiliary facilities, such as steam generators and hydrogen production units; and those that load, unload, blend or store intermediate or completed products.

(c) For an incinerator, the process unit would consist of components from the feed pit or refuse pit to the stack, including conveyors, combustion devices, heat exchangers and steam generators, quench tanks, and fans.

Note to paragraph (b)(53): By a court order on December 24, 2003, this paragraph (b)(53) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(54) Functionally equivalent component means a component that serves the same purpose as the replaced component.

Note to paragraph (b)(54): By a court order on December 24, 2003, this paragraph (b)(54) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(55) Fixed capital cost means the capital needed to provide all the depreciable components. "Depreciable components" refers to all components of fixed capital cost and is calculated by subtracting land and working capital from the total capital investment, as defined in paragraph (b)(56) of this section.

Note to paragraph (b)(55): By a court order on December 24, 2003, this paragraph (b)(55) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(56) Total capital investment means the sum of the following: all costs required to purchase needed process equipment (purchased equipment costs); the costs of labor and materials for installing that equipment (direct installation costs); the costs of site preparation and buildings; other costs such as engineering, construction and field expenses, fees to contractors, startup and performance tests, and contingencies (indirect installation costs); land for the process equipment; and working capital for the process equipment.

Note to paragraph (b)(56): By a court order on December 24, 2003, this paragraph (b)(56) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(c) Ambient air increments and other measures.

(1) The plan shall contain emission limitations and such other measures as may be necessary to assure that in areas designated as Class I, II, or III, increases in pollutant concentrations over the baseline concentration shall be limited to the following:

Pollutant	Maximum allowable increase (micrograms per cubic meter)
Class I Area	
PM _{2.5} :	
Annual arithmetic mean.....	1
24-hr maximum.....	2
PM ₁₀ :	
Annual arithmetic mean.....	4
24-hr maximum.....	8
Sulfur dioxide:	
Annual arithmetic mean.....	2
24-hr maximum.....	5
3-hr maximum.....	25
Nitrogen dioxide:	
Annual arithmetic mean.....	2.5
Class II Area	
PM _{2.5} :	
Annual arithmetic mean.....	4
24-hr maximum.....	9
PM ₁₀ :	
Annual arithmetic mean.....	17
24-hr maximum.....	30
Sulfur dioxide:	
Annual arithmetic mean.....	20
24-hr maximum.....	91

3-hr maximum.....	512
Nitrogen dioxide:	
Annual arithmetic mean.....	25
Class III Area	
PM _{2.5} :	
Annual arithmetic mean.....	8
24-hr maximum.....	18
PM ₁₀ :	
Annual arithmetic mean.....	34
24-hr maximum.....	60
Sulfur dioxide:	
Annual arithmetic mean.....	40
24-hr maximum.....	182
3-hr maximum.....	700
Nitrogen dioxide:	
Annual arithmetic mean.....	50

For any period other than an annual period, the applicable maximum allowable increase may be exceeded during one such period per year at any one location.

(2) Where the State can demonstrate that it has alternative measures in its plan other than maximum allowable increases as defined under paragraph (c)(1) of this section, that satisfy the requirements in sections 166(c) and 166(d) of the Clean Air Act for a regulated NSR pollutant for which the Administrator has established maximum allowable increases pursuant to section 166(a) of the Act, the requirements for maximum allowable increases for that pollutant under paragraph (c)(1) of this section shall not apply upon approval of the plan by the Administrator. The following regulated NSR pollutants are eligible for such treatment:

(i) Nitrogen dioxide.

(ii) PM_{2.5}.

(d) Ambient air ceilings. The plan shall provide that no concentration of a pollutant shall exceed:

(1) The concentration permitted under the national secondary ambient air quality standard, or

(2) The concentration permitted under the national primary ambient air quality standard, whichever concentration is lowest for the pollutant for a period of exposure.

(e) Restrictions on area classifications. The plan shall provide that—

(1) All of the following areas which were in existence on August 7, 1977, shall be Class I areas and may not be redesignated:

(i) International parks,

(ii) National wilderness areas which exceed 5,000 acres in size,

(iii) National memorial parks which exceed 5,000 acres in size, and

(iv) National parks which exceed 6,000 acres in size.

(2) Areas which were redesignated as Class I under regulations promulgated before August 7, 1977, shall remain Class I, but may be redesignated as provided in this section.

(3) Any other area, unless otherwise specified in the legislation creating such an area, is initially designated Class II, but may be redesignated as provided in this section.

(4) The following areas may be redesignated only as Class I or II:

(i) An area which as of August 7, 1977, exceeded 10,000 acres in size and was a national monument, a national primitive area, a national preserve, a national recreational area, a national wild and scenic river, a national wildlife refuge, a national lakeshore or seashore; and

(ii) A national park or national wilderness area established after August 7, 1977, which exceeds 10,000 acres in size.

(f) Exclusions from increment consumption.

(1) The plan may provide that the following concentrations shall be excluded in determining compliance with a maximum allowable increase:

(i) Concentrations attributable to the increase in emissions from stationary sources which have converted from the use of petroleum products, natural gas, or both by reason of an order in effect under section 2 (a) and (b) of the

Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) over the emissions from such sources before the effective date of such an order;

(ii) Concentrations attributable to the increase in emissions from sources which have converted from using natural gas by reason of natural gas curtailment plan in effect pursuant to the Federal Power Act over the emissions from such sources before the effective date of such plan;

(iii) Concentrations of particulate matter attributable to the increase in emissions from construction or other temporary emission-related activities of new or modified sources;

(iv) The increase in concentrations attributable to new sources outside the United States over the concentrations attributable to existing sources which are included in the baseline concentration; and

(v) Concentrations attributable to the temporary increase in emissions of sulfur dioxide, particulate matter, or nitrogen oxides from stationary sources which are affected by plan revisions approved by the Administrator as meeting the criteria specified in paragraph (f)(4) of this section.

(2) If the plan provides that the concentrations to which paragraph (f)(1)(i) or (ii) of this section, refers shall be excluded, it shall also provide that no exclusion of such concentrations shall apply more than five years after the effective date of the order to which paragraph (f)(1)(i) of this section, refers or the plan to which paragraph (f)(1)(ii) of this section, refers, whichever is applicable. If both such order and plan are applicable, no such exclusion shall apply more than five years after the later of such effective dates.

(3) [Reserved]

(4) For purposes of excluding concentrations pursuant to paragraph (f)(1)(v) of this section, the Administrator may approve a plan revision that:

(i) Specifies the time over which the temporary emissions increase of sulfur dioxide, particulate matter, or nitrogen oxides would occur. Such time is not to exceed 2 years in duration unless a longer time is approved by the Administrator.

(ii) Specifies that the time period for excluding certain contributions in accordance with paragraph (f)(4)(i) of this section, is not renewable;

(iii) Allows no emissions increase from a stationary source which would:

(a) Impact a Class I area or an area where an applicable increment is known to be violated; or

(b) Cause or contribute to the violation of a national ambient air quality standard;

(iv) Requires limitations to be in effect the end of the time period specified in accordance with paragraph (f)(4)(i) of this section, which would ensure that the emissions levels from stationary sources affected by the plan revision would not exceed those levels occurring from such sources before the plan revision was approved.

(g) Redesignation.

(1) The plan shall provide that all areas of the State (except as otherwise provided under paragraph (e) of this section) shall be designated either Class I, Class II, or Class III. Any designation other than Class II shall be subject to the redesignation procedures of this paragraph. Redesignation (except as otherwise precluded by paragraph (e) of this section) may be proposed by the respective States or Indian Governing Bodies, as provided below, subject to approval by the Administrator as a revision to the applicable State implementation plan.

(2) The plan may provide that the State may submit to the Administrator a proposal to redesignate areas of the State Class I or Class II: *Provided*, That:

(i) At least one public hearing has been held in accordance with procedures established in [§ 51.102](#).

(ii) Other States, Indian Governing Bodies, and Federal Land Managers whose lands may be affected by the proposed redesignation were notified at least 30 days prior to the public hearing;

(iii) A discussion of the reasons for the proposed redesignation, including a satisfactory description and analysis of the health, environmental, economic, social, and energy effects of the proposed redesignation, was prepared and made available for public inspection at least 30 days prior to the hearing and the notice announcing the hearing contained appropriate notification of the availability of such discussion;

(iv) Prior to the issuance of notice respecting the redesignation of an area that includes any Federal lands, the State has provided written notice to the appropriate Federal Land Manager and afforded adequate opportunity (not in excess of 60 days) to confer with the State respecting the redesignation and to submit written comments and recommendations. In redesignating any area with respect to which any Federal Land Manager had submitted written comments and recommendations, the State shall have published a list of any inconsistency between such redesignation and such comments and recommendations (together with the reasons for making such redesignation against the recommendation of the Federal Land Manager); and

(v) The State has proposed the redesignation after consultation with the elected leadership of local and other substate general purpose governments in the area covered by the proposed redesignation.

(3) The plan may provide that any area other than an area to which paragraph (e) of this section refers may be redesignated as Class III if—

(i) The redesignation would meet the requirements of provisions established in accordance with paragraph (g)(2) of this section;

(ii) The redesignation, except any established by an Indian Governing Body, has been specifically approved by the Governor of the State, after consultation with the appropriate committees of the legislature, if it is in session, or with the leadership of the legislature, if it is not in session (unless State law provides that such redesignation must be specifically approved by State legislation) and if general purpose units of local government representing a majority of the residents of the area to be redesignated enact legislation (including resolutions where appropriate) concurring in the redesignation;

(iii) The redesignation would not cause, or contribute to, a concentration of any air pollutant which would exceed any maximum allowable increase permitted under the classification of any other area or any national ambient air quality standard; and

(iv) Any permit application for any major stationary source or major modification subject to provisions established in accordance with paragraph (l) of this section which could receive a permit only if the area in question were redesignated as Class III, and any material submitted as part of that application, were available, insofar as was practicable, for public inspection prior to any public hearing on redesignation of any area as Class III.

(4) The plan shall provide that lands within the exterior boundaries of Indian Reservations may be redesignated only by the appropriate Indian Governing Body. The appropriate Indian Governing Body may submit to the Administrator a proposal to redesignate areas Class I, Class II, or Class III: *Provided*, That:

(i) The Indian Governing Body has followed procedures equivalent to those required of a State under paragraphs (g)(2), (3)(iii), and (3)(iv) of this section; and

(ii) Such redesignation is proposed after consultation with the State(s) in which the Indian Reservation is located and which border the Indian Reservation.

(5) The Administrator shall disapprove, within 90 days of submission, a proposed redesignation of any area only if he finds, after notice and opportunity for public hearing, that such redesignation does not meet the procedural requirements of this section or is inconsistent with paragraph (e) of this section. If any such disapproval occurs, the classification of the area shall be that which was in effect prior to the redesignation which was disapproved.

(6) If the Administrator disapproves any proposed area designation, the State or Indian Governing Body, as appropriate, may resubmit the proposal after correcting the deficiencies noted by the Administrator.

(h) Stack heights. The plan shall provide, as a minimum, that the degree of emission limitation required for control of any air pollutant under the plan shall not be affected in any manner by—

(1) So much of a stack height, not in existence before December 31, 1970, as exceeds good engineering practice, or

(2) Any other dispersion technique not implemented before then.

(i) Exemptions.

(1) The plan may provide that requirements equivalent to those contained in paragraphs (j) through (r) of this section do not apply to a particular major stationary source or major modification if:

(i) The major stationary source would be a nonprofit health or nonprofit educational institution or a major modification that would occur at such an institution; or

(ii) The source or modification would be a major stationary source or major modification only if fugitive emissions, to the extent quantifiable, are considered in calculating the potential to emit of the stationary source or modification and such source does not belong to any of the following categories:

(a) Coal cleaning plants (with thermal dryers);

(b) Kraft pulp mills;

(c) Portland cement plants;

(d) Primary zinc smelters;

(e) Iron and steel mills;

(f) Primary aluminum ore reduction plants;

(g) Primary copper smelters;

(h) Municipal incinerators capable of charging more than 250 tons of refuse per day;

(i) Hydrofluoric, sulfuric, or nitric acid plants;

(j) Petroleum refineries;

(k) Lime plants;

(l) Phosphate rock processing plants;

- (m) Coke oven batteries;
 - (n) Sulfur recovery plants;
 - (o) Carbon black plants (furnace process);
 - (p) Primary lead smelters;
 - (q) Fuel conversion plants;
 - (r) Sintering plants;
 - (s) Secondary metal production plants;
 - (t) Chemical process plants—The term chemical processing plant shall not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140;
 - (u) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
 - (v) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
 - (w) Taconite ore processing plants;
 - (x) Glass fiber processing plants;
 - (y) Charcoal production plants;
 - (z) Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input;
 - (aa) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act; or
- (iii) The source or modification is a portable stationary source which has previously received a permit under requirements equivalent to those contained in paragraphs (j) through (r) of this section, if:
- (a) The source proposes to relocate and emissions of the source at the new location would be temporary; and

(b) The emissions from the source would not exceed its allowable emissions; and

(c) The emissions from the source would impact no Class I area and no area where an applicable increment is known to be violated; and

(d) Reasonable notice is given to the reviewing authority prior to the relocation identifying the proposed new location and the probable duration of operation at the new location. Such notice shall be given to the reviewing authority not less than 10 days in advance of the proposed relocation unless a different time duration is previously approved by the reviewing authority.

(2) The plan may provide that requirements equivalent to those contained in paragraphs (j) through (r) of this section do not apply to a major stationary source or major modification with respect to a particular pollutant if the owner or operator demonstrates that, as to that pollutant, the source or modification is located in an area designated as nonattainment under section 107 of the Act. Nonattainment designations for revoked NAAQS, as contained in part 81 of this chapter, shall not be viewed as current designations under section 107 of the Act for purposes of determining the applicability of requirements equivalent to those contained in paragraphs (j) through (r) of this section to a major stationary source or major modification after the revocation of that NAAQS is effective.

(3) The plan may provide that requirements equivalent to those contained in paragraphs (k), (m), and (o) of this section do not apply to a proposed major stationary source or major modification with respect to a particular pollutant, if the allowable emissions of that pollutant from a new source, or the net emissions increase of that pollutant from a modification, would be temporary and impact no Class I area and no area where an applicable increment is known to be violated.

(4) The plan may provide that requirements equivalent to those contained in paragraphs (k), (m), and (o) of this section as they relate to any maximum allowable increase for a Class II area do not apply to a modification of a major stationary source that was in existence on March 1, 1978, if the net increase in allowable emissions of each a regulated NSR pollutant from the modification after the application of best available control technology would be less than 50 tons per year.

(5) The plan may provide that the reviewing authority may exempt a proposed major stationary source or major modification from the requirements of paragraph (m) of this section, with respect to monitoring for a particular pollutant, if:

(i) The emissions increase of the pollutant from a new stationary source or the net emissions increase of the pollutant from a modification would cause, in any area, air quality impacts less than the following amounts:

(a) Carbon monoxide— $575 \mu\text{g}/\text{m}^3$, 8-hour average;

(b) Nitrogen dioxide— $14 \mu\text{g}/\text{m}^3$, annual average;

(c) $\text{PM}_{2.5}$ — $0 \mu\text{g}/\text{m}^3$;

Note to paragraph (i)(5)(i)(c): In accordance with *Sierra Club v. EPA*, 706 F.3d 428 (D.C. Cir. 2013), no exemption is available with regard to $\text{PM}_{2.5}$.

(d) PM_{10-10} $\mu\text{g}/\text{m}^3$, 24-hour average;

(e) Sulfur dioxide— $13 \mu\text{g}/\text{m}^3$, 24-hour average;

(f) Ozone;¹

(g) Lead— $0.1 \mu\text{g}/\text{m}^3$, 3-month average.

(h) Fluorides— $0.25 \mu\text{g}/\text{m}^3$, 24-hour average;

(i) Total reduced sulfur— $10 \mu\text{g}/\text{m}^3$, 1-hour average

(j) Hydrogen sulfide— $0.2 \mu\text{g}/\text{m}^3$, 1-hour average;

(k) Reduced sulfur compounds— $10 \mu\text{g}/\text{m}^3$, 1-hour average; or

(ii) The concentrations of the pollutant in the area that the source or modification would affect are less than the concentrations listed in paragraph (i)(5)(i) of this section; or

(iii) The pollutant is not listed in paragraph (i)(5)(i) of this section.

(6) If EPA approves a plan revision under 40 CFR 51.166 as in effect before August 7, 1980, any subsequent revision which meets the requirements of this section may contain transition provisions which parallel the transition provisions of 40 CFR 52.21(i)(9), (i)(10) and (m)(1)(v) as in effect on that date, which provisions relate to requirements for best available control technology and air quality analyses. Any such subsequent revision may not contain any transition provision which in the context of the revision would operate any less stringently than would its counterpart in 40 CFR 52.21.

(7) If EPA approves a plan revision under § 51.166 as in effect [before July 31, 1987], any subsequent revision which meets the requirements of this section may contain transition provisions which parallel the transition provisions of § 52.21 (i)(11), and (m)(1) (vii) and (viii) of this chapter as in effect on that date, these provisions being related

to monitoring requirements for particulate matter. Any such subsequent revision may not contain any transition provision which in the context of the revision would operate any less stringently than would its counterpart in § 52.21 of this chapter.

(8) The plan may provide that the permitting requirements equivalent to those contained in paragraph (k)(1)(ii) of this section do not apply to a stationary source or modification with respect to any maximum allowable increase for nitrogen oxides if the owner or operator of the source or modification submitted an application for a permit under the applicable permit program approved or promulgated under the Act before the provisions embodying the maximum allowable increase took effect as part of the plan and the permitting authority subsequently determined that the application as submitted before that date was complete.

(9) The plan may provide that the permitting requirements equivalent to those contained in paragraph (k)(1)(ii) of this section shall not apply to a stationary source or modification with respect to any maximum allowable increase for PM₁₀ if (i) the owner or operator of the source or modification submitted an application for a permit under the applicable permit program approved under the Act before the provisions embodying the maximum allowable increases for PM₁₀ took effect as part of the plan, and (ii) the permitting authority subsequently determined that the application as submitted before that date was complete. Instead, the applicable requirements equivalent to paragraph (k)(1)(ii) shall apply with respect to the maximum allowable increases for TSP as in effect on the date the application was submitted.

(10) The plan may provide that the requirements of paragraph (k)(1) of this section shall not apply to a stationary source or modification with respect to the national ambient air quality standards for PM_{2.5} in effect on March 18, 2013 if:

(i) The reviewing authority has determined a permit application subject to this section to be complete on or before December 14, 2012. Instead, the requirements in paragraph (k)(1) of this section shall apply with respect to the national ambient air quality standards for PM_{2.5} in effect at the time the reviewing authority determined the permit application to be complete; or

(ii) The reviewing authority has first published before March 18, 2013 a public notice of a preliminary determination for the permit application subject to this section. Instead, the requirements in paragraph (k)(1) of this section shall apply with respect to the national ambient air quality standards for PM_{2.5} in effect at the time of first publication of a public notice on the preliminary determination.

(11) The plan may provide that the requirements of paragraph (k)(1) of this section shall not apply to a permit application for a stationary source or modification with respect to the revised national ambient air quality standards for ozone published on October 26, 2015 if:

(i) The reviewing authority has determined the permit application subject to this section to be complete on or before October 1, 2015. Instead, the requirements in paragraph (k)(1) of this section shall apply with respect to the national ambient air quality standards for ozone in effect at the time the reviewing authority determined the permit application to be complete; or

(ii) The reviewing authority has first published before December 28, 2015 a public notice of a preliminary determination or draft permit for the permit application subject to this section. Instead, the requirements in paragraph (k)(1) of this section shall apply with respect to the national ambient air quality standards for ozone in effect at the time of first publication of a public notice of the preliminary determination or draft permit.

(j) Control technology review. The plan shall provide that:

(1) A major stationary source or major modification shall meet each applicable emissions limitation under the State Implementation Plan and each applicable emission standards and standard of performance under 40 CFR parts 60 and 61.

(2) A new major stationary source shall apply best available control technology for each a regulated NSR pollutant that it would have the potential to emit in significant amounts.

(3) A major modification shall apply best available control technology for each a regulated NSR pollutant for which it would be a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit.

(4) For phased construction projects, the determination of best available control technology shall be reviewed and modified as appropriate at the least reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source.

(k) Source impact analysis—

(1) Required demonstration. The plan shall provide that the owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reduction (including secondary emissions), would not cause or contribute to air pollution in violation of:

(i) Any national ambient air quality standard in any air quality control region; or

(ii) Any applicable maximum allowable increase over the baseline concentration in any area.

(2) [Reserved by 78 FR 73702]

(l) Air quality models. The plan shall provide for procedures which specify that—

(1) All applications of air quality modeling involved in this subpart shall be based on the applicable models, data bases, and other requirements specified in appendix W of this part (Guideline on Air Quality Models).

(2) Where an air quality model specified in appendix W of this part (Guideline on Air Quality Models) is inappropriate, the model may be modified or another model substituted. Such a modification or substitution of a model may be made on a case-by-case basis or, where appropriate, on a generic basis for a specific State program. Written approval of the Administrator must be obtained for any modification or substitution. In addition, use of a modified or substituted model must be subject to notice and opportunity for public comment under procedures set forth in § 51.102.

(m) Air quality analysis.

(1) Preapplication analysis.

(i) The plan shall provide that any application for a permit under regulations approved pursuant to this section shall contain an analysis of ambient air quality in the area that the major stationary source or major modification would affect for each of the following pollutants:

(a) For the source, each pollutant that it would have the potential to emit in a significant amount;

(b) For the modification, each pollutant for which it would result in a significant net emissions increase.

(ii) The plan shall provide that, with respect to any such pollutant for which no National Ambient Air Quality Standard exists, the analysis shall contain such air quality monitoring data as the reviewing authority determines is necessary to assess ambient air quality for that pollutant in any area that the emissions of that pollutant would affect.

(iii) The plan shall provide that with respect to any such pollutant (other than nonmethane hydrocarbons) for which such a standard does exist, the analysis shall contain continuous air quality monitoring data gathered for purposes of determining whether emissions of that pollutant would cause or contribute to a violation of the standard or any maximum allowable increase.

(iv) The plan shall provide that, in general, the continuous air monitoring data that is required shall have been gathered over a period of one year and shall represent the year preceding receipt of the application, except that, if the reviewing authority determines that a complete and adequate analysis can be accomplished with monitoring data gathered over a period shorter than one year (but not to be less than four months), the data that is required shall have been gathered over at least that shorter period.

(v) The plan may provide that the owner or operator of a proposed major stationary source or major modification of volatile organic compounds who satisfies all conditions of 40 CFR part 51 appendix S, section IV may provide postapproval monitoring data for ozone in lieu of providing preconstruction data as required under paragraph (m) (1) of this section.

(2) Post-construction monitoring. The plan shall provide that the owner or operator of a major stationary source or major modification shall, after construction of the stationary source or modification, conduct such ambient monitoring as the reviewing authority determines is necessary to determine the effect emissions from the stationary source or modification may have, or are having, on air quality in any area.

(3) Operation of monitoring stations. The plan shall provide that the owner or operator of a major stationary source or major modification shall meet the requirements of appendix B to part 58 of this chapter during the operation of monitoring stations for purposes of satisfying paragraph (m) of this section.

(n) Source information.

(1) The plan shall provide that the owner or operator of a proposed source or modification shall submit all information necessary to perform any analysis or make any determination required under procedures established in accordance with this section.

(2) The plan may provide that such information shall include:

(i) A description of the nature, location, design capacity, and typical operating schedule of the source or modification, including specifications and drawings showing its design and plant layout;

(ii) A detailed schedule for construction of the source or modification;

(iii) A detailed description as to what system of continuous emission reduction is planned by the source or modification, emission estimates, and any other information as necessary to determine that best available control technology as applicable would be applied;

(3) The plan shall provide that upon request of the State, the owner or operator shall also provide information on:

(i) The air quality impact of the source or modification, including meteorological and topographical data necessary to estimate such impact; and

(ii) The air quality impacts and the nature and extent of any or all general commercial, residential, industrial, and other growth which has occurred since August 7, 1977, in the area the source or modification would affect.

(o) Additional impact analyses. The plan shall provide that—

(1) The owner or operator shall provide an analysis of the impairment to visibility, soils, and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial, and other growth

associated with the source or modification. The owner or operator need not provide an analysis of the impact on vegetation having no significant commercial or recreational value.

(2) The owner or operator shall provide an analysis of the air quality impact projected for the area as a result of general commercial, residential, industrial, and other growth associated with the source or modification.

(p) Sources impacting Federal Class I areas—additional requirements—

(1) Notice to EPA. The plan shall provide that the reviewing authority shall transmit to the Administrator a copy of each permit application relating to a major stationary source or major modification and provide notice to the Administrator of every action related to the consideration of such permit.

(2) Federal Land Manager. The Federal Land Manager and the Federal official charged with direct responsibility for management of Class I lands have an affirmative responsibility to protect the air quality related values (including visibility) of any such lands and to consider, in consultation with the Administrator, whether a proposed source or modification would have an adverse impact on such values.

(3) Denial—impact on air quality related values. The plan shall provide a mechanism whereby a Federal Land Manager of any such lands may present to the State, after the reviewing authority's preliminary determination required under procedures developed in accordance with paragraph (r) of this section, a demonstration that the emissions from the proposed source or modification would have an adverse impact on the air quality-related values (including visibility) of any Federal mandatory Class I lands, notwithstanding that the change in air quality resulting from emissions from such source or modification would not cause or contribute to concentrations which would exceed the maximum allowable increases for a Class I area. If the State concurs with such demonstration, the reviewing authority shall not issue the permit.

(4) Class I Variances. The plan may provide that the owner or operator of a proposed source or modification may demonstrate to the Federal Land Manager that the emissions from such source would have no adverse impact on the air quality related values of such lands (including visibility), notwithstanding that the change in air quality resulting from emissions from such source or modification would cause or contribute to concentrations which would exceed the maximum allowable increases for a Class I area. If the Federal land manager concurs with such demonstration and so certifies to the State, the reviewing authority may: *Provided*, That applicable requirements are otherwise met, issue the permit with such emission limitations as may be necessary to assure that emissions of sulfur dioxide, PM_{2.5}, PM₁₀, and nitrogen oxides would not exceed the following maximum allowable increases over minor source baseline concentration for such pollutants:

Pollutant	Maximum allowable increase (micrograms per cubic meter)
PM _{2.5} :	
Annual arithmetic mean.....	4

24-hr maximum.....	9
PM ₁₀ :	
Annual arithmetic mean.....	17
24-hr maximum.....	30
Sulfur dioxide:	
Annual arithmetic mean.....	20
24-hr maximum.....	91
3-hr maximum.....	325
Nitrogen dioxide:	
Annual arithmetic mean.....	25

(5) Sulfur dioxide variance by Governor with Federal Land Manager's concurrence. The plan may provide that—

(i) The owner or operator of a proposed source or modification which cannot be approved under procedures developed pursuant to paragraph (q)(4) of this section may demonstrate to the Governor that the source or modification cannot be constructed by reason of any maximum allowable increase for sulfur dioxide for periods of twenty-four hours or less applicable to any Class I area and, in the case of Federal mandatory Class I areas, that a variance under this clause would not adversely affect the air quality related values of the area (including visibility);

(ii) The Governor, after consideration of the Federal Land Manager's recommendation (if any) and subject to his concurrence, may grant, after notice and an opportunity for a public hearing, a variance from such maximum allowable increase; and

(iii) If such variance is granted, the reviewing authority may issue a permit to such source or modification in accordance with provisions developed pursuant to paragraph (q)(7) of this section: *Provided*, That the applicable requirements of the plan are otherwise met.

(6) Variance by the Governor with the President's concurrence. The plan may provide that—

(i) The recommendations of the Governor and the Federal Land Manager shall be transferred to the President in any case where the Governor recommends a variance in which the Federal Land Manager does not concur;

(ii) The President may approve the Governor's recommendation if he finds that such variance is in the national interest; and

(iii) If such a variance is approved, the reviewing authority may issue a permit in accordance with provisions developed pursuant to the requirements of paragraph (q)(7) of this section: *Provided*, That the applicable requirements of the plan are otherwise met.

(7) Emission limitations for Presidential or gubernatorial variance. The plan shall provide that in the case of a permit issued under procedures developed pursuant to paragraph (q)(5) or (6) of this section, the source or modification shall comply with emission limitations as may be necessary to assure that emissions of sulfur dioxide from the source or modification would not (during any day on which the otherwise applicable maximum allowable increases are exceeded) cause or contribute to concentrations which would exceed the following maximum allowable increases over the baseline concentration and to assure that such emissions would not cause or contribute to concentrations which exceed the otherwise applicable maximum allowable increases for periods of exposure of 24 hours or less for more than 18 days, not necessarily consecutive, during any annual period:

MAXIMUM ALLOWABLE INCREASE

[Micrograms per cubic meter]

Period of exposure	Terrain areas	
	Low	High
24-hr maximum.....	36	62
3-hr maximum.....	130	221

(q) Public participation. The plan shall provide that—

(1) The reviewing authority shall notify all applicants within a specified time period as to the completeness of the application or any deficiency in the application or information submitted. In the event of such a deficiency, the date of receipt of the application shall be the date on which the reviewing authority received all required information.

(2) Within one year after receipt of a complete application, the reviewing authority shall:

(i) Make a preliminary determination whether construction should be approved, approved with conditions, or disapproved.

(ii) Make available in at least one location in each region in which the proposed source would be constructed, a copy of all materials the applicant submitted, a copy of the preliminary determination, and a copy or summary of other materials, if any, considered in making the preliminary determination. This requirement may be met by making these materials available at a physical location or on a public Web site identified by the reviewing authority.

(iii) Notify the public, by advertisement in a newspaper of general circulation in each region in which the proposed source would be constructed, of the application, the preliminary determination, the degree of increment consumption that is expected from the source or modification, and of the opportunity for comment at a public

hearing as well as through written public comment. Alternatively, these notifications may be made on a public Web site identified by the reviewing authority. However, the reviewing authority's selected notification method (i.e., either newspaper or Web site), known as the "consistent noticing method," shall be used for all permits subject to notice under this section and may, when appropriate, be supplemented by other noticing methods on individual permits. If the reviewing authority selects Web site notice as its consistent noticing method, the notice shall be available for the duration of the public comment period and shall include the notice of public comment, the draft permit, information on how to access the administrative record for the draft permit and how to request and/or attend a public hearing on the draft permit.

(iv) Send a copy of the notice of public comment to the applicant, the Administrator and to officials and agencies having cognizance over the location where the proposed construction would occur as follows: Any other State or local air pollution control agencies, the chief executives of the city and county where the source would be located; any comprehensive regional land use planning agency, and any State, Federal Land Manager, or Indian Governing body whose lands may be affected by emissions from the source or modification.

(v) Provide opportunity for a public hearing for interested persons to appear and submit written or oral comments on the air quality impact of the source, alternatives to it, the control technology required, and other appropriate considerations.

(vi) Consider all written comments submitted within a time specified in the notice of public comment and all comments received at any public hearing in making a final decision on the approvability of the application. The reviewing authority shall make all comments available for public inspection at the same physical location or on the same Web site where the reviewing authority made available preconstruction information relating to the proposed source or modification.

(vii) Make a final determination whether construction should be approved, approved with conditions, or disapproved.

(viii) Notify the applicant in writing of the final determination and make such notification available for public inspection at the same location or on the same Web site where the reviewing authority made available preconstruction information and public comments relating to the proposed source or modification.

(r) Source obligation.

(1) The plan shall include enforceable procedures to provide that approval to construct shall not relieve any owner or operator of the responsibility to comply fully with applicable provisions of the plan and any other requirements under local, State or Federal law.

(2) The plan shall provide that at such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of paragraphs (j) through (s) of this section shall apply to the source or modification as though construction had not yet commenced on the source or modification.

(3) to (5) [Reserved]

(6) Each plan shall provide that, except as otherwise provided in paragraph (r)(6)(vi) of this section, the following specific provisions apply with respect to any regulated NSR pollutant emitted from projects at existing emissions units at a major stationary source (other than projects at a source with a PAL) in circumstances where there is a reasonable possibility, within the meaning of paragraph (r)(6)(vi) of this section, that a project that is not a part of a major modification may result in a significant emissions increase of such pollutant, and the owner or operator elects to use the method specified in paragraphs (b)(40)(ii)(a) through (c) of this section for calculating projected actual emissions. Deviations from these provisions will be approved only if the State specifically demonstrates that the submitted provisions are more stringent than or at least as stringent in all respects as the corresponding provisions in paragraphs (r)(6)(i) through (vi) of this section.

(i) Before beginning actual construction of the project, the owner or operator shall document and maintain a record of the following information:

(a) A description of the project;

(b) Identification of the emissions unit(s) whose emissions of a regulated NSR pollutant could be affected by the project; and

(c) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under paragraph (b)(40)(ii)(c) of this section and an explanation for why such amount was excluded, and any netting calculations, if applicable.

(ii) If the emissions unit is an existing electric utility steam generating unit, before beginning actual construction, the owner or operator shall provide a copy of the information set out in paragraph (r)(6)(i) of this section to the reviewing authority. Nothing in this paragraph (r)(6)(ii) shall be construed to require the owner or operator of such a unit to obtain any determination from the reviewing authority before beginning actual construction.

(iii) The owner or operator shall monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any emissions unit identified in paragraph (r)(6)(i)(b) of this section; and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity or potential to emit of that regulated NSR pollutant at such emissions unit.

(iv) If the unit is an existing electric utility steam generating unit, the owner or operator shall submit a report to the reviewing authority within 60 days after the end of each year during which records must be generated under paragraph (r)(6)(iii) of this section setting out the unit's annual emissions during the calendar year that preceded submission of the report.

(v) If the unit is an existing unit other than an electric utility steam generating unit, the owner or operator shall submit a report to the reviewing authority if the annual emissions, in tons per year, from the project identified in paragraph (r)(6)(i) of this section, exceed the baseline actual emissions (as documented and maintained pursuant to paragraph (r)(6)(i)(c) of this section) by a significant amount (as defined in paragraph (b)(23) of this section) for that regulated NSR pollutant, and if such emissions differ from the preconstruction projection as documented and maintained pursuant to paragraph (r)(6)(i)(c) of this section. Such report shall be submitted to the reviewing authority within 60 days after the end of such year. The report shall contain the following:

(a) The name, address and telephone number of the major stationary source;

(b) The annual emissions as calculated pursuant to paragraph (r)(6)(iii) of this section; and

(c) Any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

(vi) A “reasonable possibility” under paragraph (r)(6) of this section occurs when the owner or operator calculates the project to result in either:

(a) A projected actual emissions increase of at least 50 percent of the amount that is a “significant emissions increase,” as defined under paragraph (b)(39) of this section (without reference to the amount that is a significant net emissions increase), for the regulated NSR pollutant; or

(b) A projected actual emissions increase that, added to the amount of emissions excluded under paragraph (b)(40)(ii)(c), sums to at least 50 percent of the amount that is a “significant emissions increase,” as defined under paragraph (b)(39) of this section (without reference to the amount that is a significant net emissions increase), for the regulated NSR pollutant. For a project for which a reasonable possibility occurs only within the meaning of paragraph (r)(6)(vi)(b) of this section, and not also within the meaning of paragraph (a)(6)(vi)(a) of this section, then provisions (a)(6)(ii) through (v) do not apply to the project.

(7) Each plan shall provide that the owner or operator of the source shall make the information required to be documented and maintained pursuant to paragraph (r)(6) of this section available for review upon request for inspection by the reviewing authority or the general public pursuant to the requirements contained in § 70.4(b)(3)(viii) of this chapter.

(s) Innovative control technology.

(1) The plan may provide that an owner or operator of a proposed major stationary source or major modification may request the reviewing authority to approve a system of innovative control technology.

(2) The plan may provide that the reviewing authority may, with the consent of the Governor(s) of other affected State(s), determine that the source or modification may employ a system of innovative control technology, if:

(i) The proposed control system would not cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation or function;

(ii) The owner or operator agrees to achieve a level of continuous emissions reduction equivalent to that which would have been required under paragraph (j)(2) of this section, by a date specified by the reviewing authority. Such date shall not be later than 4 years from the time of startup or 7 years from permit issuance;

(iii) The source or modification would meet the requirements equivalent to those in paragraphs (j) and (k) of this section, based on the emissions rate that the stationary source employing the system of innovative control technology would be required to meet on the date specified by the reviewing authority;

(iv) The source or modification would not before the date specified by the reviewing authority:

(a) Cause or contribute to any violation of an applicable national ambient air quality standard; or

(b) Impact any area where an applicable increment is known to be violated;

(v) All other applicable requirements including those for public participation have been met.

(vi) The provisions of paragraph (p) of this section (relating to Class I areas) have been satisfied with respect to all periods during the life of the source or modification.

(3) The plan shall provide that the reviewing authority shall withdraw any approval to employ a system of innovative control technology made under this section, if:

(i) The proposed system fails by the specified date to achieve the required continuous emissions reduction rate; or

(ii) The proposed system fails before the specified date so as to contribute to an unreasonable risk to public health, welfare, or safety; or

(iii) The reviewing authority decides at any time that the proposed system is unlikely to achieve the required level of control or to protect the public health, welfare, or safety.

(4) The plan may provide that if a source or modification fails to meet the required level of continuous emissions reduction within the specified time period, or if the approval is withdrawn in accordance with paragraph (s)(3) of this section, the reviewing authority may allow the source or modification up to an additional 3 years to meet the requirement for the application of best available control technology through use of a demonstrated system of control.

(t) to (v) [Reserved]

(w) Actuals PALs. The plan shall provide for PALs according to the provisions in paragraphs (w)(1) through (15) of this section.

(1) Applicability.

(i) The reviewing authority may approve the use of an actuals PAL for any existing major stationary source if the PAL meets the requirements in paragraphs (w)(1) through (15) of this section. The term “PAL” shall mean “actuals PAL” throughout paragraph (w) of this section.

(ii) Any physical change in or change in the method of operation of a major stationary source that maintains its total source-wide emissions below the PAL level, meets the requirements in paragraphs (w)(1) through (15) of this section, and complies with the PAL permit:

(a) Is not a major modification for the PAL pollutant;

(b) Does not have to be approved through the plan's major NSR program; and

(c) Is not subject to the provisions in paragraph (r)(2) of this section (restrictions on relaxing enforceable emission limitations that the major stationary source used to avoid applicability of the major NSR program).

(iii) Except as provided under paragraph (w)(1)(ii)(c) of this section, a major stationary source shall continue to comply with all applicable Federal or State requirements, emission limitations, and work practice requirements that were established prior to the effective date of the PAL.

(2) Definitions. The plan shall use the definitions in paragraphs (w)(2)(i) through (xi) of this section for the purpose of developing and implementing regulations that authorize the use of actuals PALs consistent with paragraphs (w) (1) through (15) of this section. When a term is not defined in these paragraphs, it shall have the meaning given in paragraph (b) of this section or in the Act.

(i) Actuals PAL for a major stationary source means a PAL based on the baseline actual emissions (as defined in paragraph (b)(47) of this section) of all emissions units (as defined in paragraph (b)(7) of this section) at the source, that emit or have the potential to emit the PAL pollutant.

(ii) Allowable emissions means “allowable emissions” as defined in paragraph (b)(16) of this section, except as this definition is modified according to paragraphs (w)(2)(ii)(a) and (b) of this section.

(a) The allowable emissions for any emissions unit shall be calculated considering any emission limitations that are enforceable as a practical matter on the emissions unit's potential to emit.

(b) An emissions unit's potential to emit shall be determined using the definition in paragraph (b)(4) of this section, except that the words “or enforceable as a practical matter” should be added after “federally enforceable.”

(iii) Small emissions unit means an emissions unit that emits or has the potential to emit the PAL pollutant in an amount less than the significant level for that PAL pollutant, as defined in paragraph (b)(23) of this section or in the Act, whichever is lower.

(iv) Major emissions unit means:

(a) Any emissions unit that emits or has the potential to emit 100 tons per year or more of the PAL pollutant in an attainment area; or

(b) Any emissions unit that emits or has the potential to emit the PAL pollutant in an amount that is equal to or greater than the major source threshold for the PAL pollutant as defined by the Act for nonattainment areas. For example, in accordance with the definition of major stationary source in section 182(c) of the Act, an emissions unit would be a major emissions unit for VOC if the emissions unit is located in a serious ozone nonattainment area and it emits or has the potential to emit 50 or more tons of VOC per year.

(v) Plantwide applicability limitation (PAL) means an emission limitation expressed in tons per year, for a pollutant at a major stationary source, that is enforceable as a practical matter and established source-wide in accordance with paragraphs (w)(1) through (15) of this section.

(vi) PAL effective date generally means the date of issuance of the PAL permit. However, the PAL effective date for an increased PAL is the date any emissions unit that is part of the PAL major modification becomes operational and begins to emit the PAL pollutant.

(vii) PAL effective period means the period beginning with the PAL effective date and ending 10 years later.

(viii) PAL major modification means, notwithstanding paragraphs (b)(2) and (b)(3) of this section (the definitions for major modification and net emissions increase), any physical change in or change in the method of operation of the PAL source that causes it to emit the PAL pollutant at a level equal to or greater than the PAL.

(ix) PAL permit means the major NSR permit, the minor NSR permit, or the State operating permit under a program that is approved into the plan, or the title V permit issued by the reviewing authority that establishes a PAL for a major stationary source.

(x) PAL pollutant means the pollutant for which a PAL is established at a major stationary source.

(xi) Significant emissions unit means an emissions unit that emits or has the potential to emit a PAL pollutant in an amount that is equal to or greater than the significant level (as defined in paragraph (b)(23) of this section or in the Act, whichever is lower) for that PAL pollutant, but less than the amount that would qualify the unit as a major emissions unit as defined in paragraph (w)(2)(iv) of this section.

(3) Permit application requirements. As part of a permit application requesting a PAL, the owner or operator of a major stationary source shall submit the following information in paragraphs (w)(3)(i) through (iii) of this section to the reviewing authority for approval.

(i) A list of all emissions units at the source designated as small, significant or major based on their potential to emit. In addition, the owner or operator of the source shall indicate which, if any, Federal or State applicable requirements, emission limitations, or work practices apply to each unit.

(ii) Calculations of the baseline actual emissions (with supporting documentation). Baseline actual emissions are to include emissions associated not only with operation of the unit, but also emissions associated with startup, shutdown, and malfunction.

(iii) The calculation procedures that the major stationary source owner or operator proposes to use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total for each month as required by paragraph (w)(13)(i) of this section.

(4) General requirements for establishing PALs.

(i) The plan allows the reviewing authority to establish a PAL at a major stationary source, provided that at a minimum, the requirements in paragraphs (w)(4)(i)(a) through (g) of this section are met.

(a) The PAL shall impose an annual emission limitation in tons per year, that is enforceable as a practical matter, for the entire major stationary source. For each month during the PAL effective period after the first 12 months of establishing a PAL, the major stationary source owner or operator shall show that the sum of the monthly emissions from each emissions unit under the PAL for the previous 12 consecutive months is less than the PAL (a 12-month average, rolled monthly). For each month during the first 11 months from the PAL effective date, the major stationary source owner or operator shall show that the sum of the preceding monthly emissions from the PAL effective date for each emissions unit under the PAL is less than the PAL.

(b) The PAL shall be established in a PAL permit that meets the public participation requirements in paragraph (w)(5) of this section.

(c) The PAL permit shall contain all the requirements of paragraph (w)(7) of this section.

(d) The PAL shall include fugitive emissions, to the extent quantifiable, from all emissions units that emit or have the potential to emit the PAL pollutant at the major stationary source.

(e) Each PAL shall regulate emissions of only one pollutant.

(f) Each PAL shall have a PAL effective period of 10 years.

(g) The owner or operator of the major stationary source with a PAL shall comply with the monitoring, recordkeeping, and reporting requirements provided in paragraphs (w)(12) through (14) of this section for each emissions unit under the PAL through the PAL effective period.

(ii) At no time (during or after the PAL effective period) are emissions reductions of a PAL pollutant that occur during the PAL effective period creditable as decreases for purposes of offsets under § 51.165(a)(3)(ii) of this chapter unless the level of the PAL is reduced by the amount of such emissions reductions and such reductions would be creditable in the absence of the PAL.

(5) Public participation requirements for PALs. PALs for existing major stationary sources shall be established, renewed, or increased, through a procedure that is consistent with §§ 51.160 and 51.161 of this chapter. This includes the requirement that the reviewing authority provide the public with notice of the proposed approval of a PAL permit and at least a 30-day period for submittal of public comment. The reviewing authority must address all material comments before taking final action on the permit.

(6) Setting the 10-year actuals PAL level.

(i) Except as provided in paragraph (w)(6)(ii) of this section, the plan shall provide that the actuals PAL level for a major stationary source shall be established as the sum of the baseline actual emissions (as defined in paragraph (b) (47) of this section) of the PAL pollutant for each emissions unit at the source; plus an amount equal to the applicable significant level for the PAL pollutant under paragraph (b)(23) of this section or under the Act, whichever is lower. When establishing the actuals PAL level, for a PAL pollutant, only one consecutive 24-month period must be used to determine the baseline actual emissions for all existing emissions units. However, a different consecutive 24-month period may be used for each different PAL pollutant. Emissions associated with units that were permanently shut down after this 24-month period must be subtracted from the PAL level. The reviewing authority shall specify a reduced PAL level(s) (in tons/yr) in the PAL permit to become effective on the future compliance date(s) of any applicable Federal or State regulatory requirement(s) that the reviewing authority is aware of prior to issuance of the PAL permit. For instance, if the source owner or operator will be required to reduce emissions from industrial boilers in half from baseline emissions of 60 ppm NO_x to a new rule limit of 30 ppm, then the permit shall contain a future effective PAL level that is equal to the current PAL level reduced by half of the original baseline emissions of such unit(s).

(ii) For newly constructed units (which do not include modifications to existing units) on which actual construction began after the 24-month period, in lieu of adding the baseline actual emissions as specified in paragraph (w)(6)(i) of this section, the emissions must be added to the PAL level in an amount equal to the potential to emit of the units.

(7) Contents of the PAL permit. The plan shall require that the PAL permit contain, at a minimum, the information in paragraphs (w)(7)(i) through (x) of this section.

- (i) The PAL pollutant and the applicable source-wide emission limitation in tons per year.
- (ii) The PAL permit effective date and the expiration date of the PAL (PAL effective period).
- (iii) Specification in the PAL permit that if a major stationary source owner or operator applies to renew a PAL in accordance with paragraph (w)(10) of this section before the end of the PAL effective period, then the PAL shall not expire at the end of the PAL effective period. It shall remain in effect until a revised PAL permit is issued by the reviewing authority.
- (iv) A requirement that emission calculations for compliance purposes include emissions from startups, shutdowns and malfunctions.
- (v) A requirement that, once the PAL expires, the major stationary source is subject to the requirements of paragraph (w)(9) of this section.
- (vi) The calculation procedures that the major stationary source owner or operator shall use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total for each month as required by paragraph (w)(3)(i) of this section.
- (vii) A requirement that the major stationary source owner or operator monitor all emissions units in accordance with the provisions under paragraph (w)(13) of this section.
- (viii) A requirement to retain the records required under paragraph (w)(13) of this section on site. Such records may be retained in an electronic format.
- (ix) A requirement to submit the reports required under paragraph (w)(14) of this section by the required deadlines.
- (x) Any other requirements that the reviewing authority deems necessary to implement and enforce the PAL.
- (8) PAL effective period and reopening of the PAL permit. The plan shall require the information in paragraphs (w)(8)(i) and (ii) of this section.
 - (i) PAL effective period. The reviewing authority shall specify a PAL effective period of 10 years.
 - (ii) Reopening of the PAL permit.
 - (a) During the PAL effective period, the plan shall require the reviewing authority to reopen the PAL permit to:

(1) Correct typographical/calculation errors made in setting the PAL or reflect a more accurate determination of emissions used to establish the PAL;

(2) Reduce the PAL if the owner or operator of the major stationary source creates creditable emissions reductions for use as offsets under § 51.165(a)(3)(ii) of this chapter; and

(3) Revise the PAL to reflect an increase in the PAL as provided under paragraph (w)(11) of this section.

(b) The plan shall provide the reviewing authority discretion to reopen the PAL permit for the following:

(1) Reduce the PAL to reflect newly applicable Federal requirements (for example, NSPS) with compliance dates after the PAL effective date;

(2) Reduce the PAL consistent with any other requirement, that is enforceable as a practical matter, and that the State may impose on the major stationary source under the plan; and

(3) Reduce the PAL if the reviewing authority determines that a reduction is necessary to avoid causing or contributing to a NAAQS or PSD increment violation, or to an adverse impact on an AQRV that has been identified for a Federal Class I area by a Federal Land Manager and for which information is available to the general public.

(c) Except for the permit reopening in paragraph (w)(8)(ii)(a)(1) of this section for the correction of typographical/calculation errors that do not increase the PAL level, all reopenings shall be carried out in accordance with the public participation requirements of paragraph (w)(5) of this section.

(9) Expiration of a PAL. Any PAL that is not renewed in accordance with the procedures in paragraph (w)(10) of this section shall expire at the end of the PAL effective period, and the requirements in paragraphs (w)(9)(i) through (v) of this section shall apply.

(i) Each emissions unit (or each group of emissions units) that existed under the PAL shall comply with an allowable emission limitation under a revised permit established according to the procedures in paragraphs (w)(9)(i)(a) and (b) of this section.

(a) Within the time frame specified for PAL renewals in paragraph (w)(10)(ii) of this section, the major stationary source shall submit a proposed allowable emission limitation for each emissions unit (or each group of emissions units, if such a distribution is more appropriate as decided by the reviewing authority) by distributing the PAL allowable emissions for the major stationary source among each of the emissions units that existed under the PAL. If the PAL had not yet been adjusted for an applicable requirement that became effective during the PAL effective period, as required under paragraph (w)(10)(v) of this section, such distribution shall be made as if the PAL had been adjusted.

(b) The reviewing authority shall decide whether and how the PAL allowable emissions will be distributed and issue a revised permit incorporating allowable limits for each emissions unit, or each group of emissions units, as the reviewing authority determines is appropriate.

(ii) Each emissions unit(s) shall comply with the allowable emission limitation on a 12-month rolling basis. The reviewing authority may approve the use of monitoring systems (source testing, emission factors, etc.) other than CEMS, CERMS, PEMS or CPMS to demonstrate compliance with the allowable emission limitation.

(iii) Until the reviewing authority issues the revised permit incorporating allowable limits for each emissions unit, or each group of emissions units, as required under paragraph (w)(9)(i)(b) of this section, the source shall continue to comply with a source-wide, multi-unit emissions cap equivalent to the level of the PAL emission limitation.

(iv) Any physical change or change in the method of operation at the major stationary source will be subject to major NSR requirements if such change meets the definition of major modification in paragraph (b)(2) of this section.

(v) The major stationary source owner or operator shall continue to comply with any State or Federal applicable requirements (BACT, RACT, NSPS, etc.) that may have applied either during the PAL effective period or prior to the PAL effective period except for those emission limitations that had been established pursuant to paragraph (r)(2) of this section, but were eliminated by the PAL in accordance with the provisions in paragraph (w)(1)(ii)(c) of this section.

(10) Renewal of a PAL.

(i) The reviewing authority shall follow the procedures specified in paragraph (w)(5) of this section in approving any request to renew a PAL for a major stationary source, and shall provide both the proposed PAL level and a written rationale for the proposed PAL level to the public for review and comment. During such public review, any person may propose a PAL level for the source for consideration by the reviewing authority.

(ii) Application deadline. The plan shall require that a major stationary source owner or operator shall submit a timely application to the reviewing authority to request renewal of a PAL. A timely application is one that is submitted at least 6 months prior to, but not earlier than 18 months from, the date of permit expiration. This deadline for application submittal is to ensure that the permit will not expire before the permit is renewed. If the owner or operator of a major stationary source submits a complete application to renew the PAL within this time period, then the PAL shall continue to be effective until the revised permit with the renewed PAL is issued.

(iii) Application requirements. The application to renew a PAL permit shall contain the information required in paragraphs (w)(10)(iii) (a) through (d) of this section.

(a) The information required in paragraphs (w)(3)(i) through (iii) of this section.

(b) A proposed PAL level.

(c) The sum of the potential to emit of all emissions units under the PAL (with supporting documentation).

(d) Any other information the owner or operator wishes the reviewing authority to consider in determining the appropriate level for renewing the PAL.

(iv) PAL adjustment. In determining whether and how to adjust the PAL, the reviewing authority shall consider the options outlined in paragraphs (w)(10)(iv) (a) and (b) of this section. However, in no case may any such adjustment fail to comply with paragraph (w)(10)(iv)(c) of this section.

(a) If the emissions level calculated in accordance with paragraph (w)(6) of this section is equal to or greater than 80 percent of the PAL level, the reviewing authority may renew the PAL at the same level without considering the factors set forth in paragraph (w)(10)(iv)(b) of this section; or

(b) The reviewing authority may set the PAL at a level that it determines to be more representative of the source's baseline actual emissions, or that it determines to be appropriate considering air quality needs, advances in control technology, anticipated economic growth in the area, desire to reward or encourage the source's voluntary emissions reductions, or other factors as specifically identified by the reviewing authority in its written rationale.

(c) Notwithstanding paragraphs (w)(10)(iv) (a) and (b) of this section:

(1) If the potential to emit of the major stationary source is less than the PAL, the reviewing authority shall adjust the PAL to a level no greater than the potential to emit of the source; and

(2) The reviewing authority shall not approve a renewed PAL level higher than the current PAL, unless the major stationary source has complied with the provisions of paragraph (w)(11) of this section (increasing a PAL).

(v) If the compliance date for a State or Federal requirement that applies to the PAL source occurs during the PAL effective period, and if the reviewing authority has not already adjusted for such requirement, the PAL shall be adjusted at the time of PAL permit renewal or title V permit renewal, whichever occurs first.

(11) Increasing a PAL during the PAL effective period.

(i) The plan shall require that the reviewing authority may increase a PAL emission limitation only if the major stationary source complies with the provisions in paragraphs (w)(11)(i) (a) through (d) of this section.

(a) The owner or operator of the major stationary source shall submit a complete application to request an increase in the PAL limit for a PAL major modification. Such application shall identify the emissions unit(s)

contributing to the increase in emissions so as to cause the major stationary source's emissions to equal or exceed its PAL.

(b) As part of this application, the major stationary source owner or operator shall demonstrate that the sum of the baseline actual emissions of the small emissions units, plus the sum of the baseline actual emissions of the significant and major emissions units assuming application of BACT equivalent controls, plus the sum of the allowable emissions of the new or modified emissions unit(s), exceeds the PAL. The level of control that would result from BACT equivalent controls on each significant or major emissions unit shall be determined by conducting a new BACT analysis at the time the application is submitted, unless the emissions unit is currently required to comply with a BACT or LAER requirement that was established within the preceding 10 years. In such a case, the assumed control level for that emissions unit shall be equal to the level of BACT or LAER with which that emissions unit must currently comply.

(c) The owner or operator obtains a major NSR permit for all emissions unit(s) identified in paragraph (w)(11)(i)(a) of this section, regardless of the magnitude of the emissions increase resulting from them (that is, no significant levels apply). These emissions unit(s) shall comply with any emissions requirements resulting from the major NSR process (for example, BACT), even though they have also become subject to the PAL or continue to be subject to the PAL.

(d) The PAL permit shall require that the increased PAL level shall be effective on the day any emissions unit that is part of the PAL major modification becomes operational and begins to emit the PAL pollutant.

(ii) The reviewing authority shall calculate the new PAL as the sum of the allowable emissions for each modified or new emissions unit, plus the sum of the baseline actual emissions of the significant and major emissions units (assuming application of BACT equivalent controls as determined in accordance with paragraph (w)(11)(i)(b) of this section), plus the sum of the baseline actual emissions of the small emissions units.

(iii) The PAL permit shall be revised to reflect the increased PAL level pursuant to the public notice requirements of paragraph (w)(5) of this section.

(12) Monitoring requirements for PALs—

(i) General requirements.

(a) Each PAL permit must contain enforceable requirements for the monitoring system that accurately determines plantwide emissions of the PAL pollutant in terms of mass per unit of time. Any monitoring system authorized for use in the PAL permit must be based on sound science and meet generally acceptable scientific procedures for data quality and manipulation. Additionally, the information generated by such system must meet minimum legal requirements for admissibility in a judicial proceeding to enforce the PAL permit.

(b) The PAL monitoring system must employ one or more of the four general monitoring approaches meeting the minimum requirements set forth in paragraphs (w)(12)(ii) (a) through (d) of this section and must be approved by the reviewing authority.

(c) Notwithstanding paragraph (w)(12)(i)(b) of this section, you may also employ an alternative monitoring approach that meets paragraph (w)(12)(i)(a) of this section if approved by the reviewing authority.

(d) Failure to use a monitoring system that meets the requirements of this section renders the PAL invalid.

(ii) Minimum performance requirements for approved monitoring approaches. The following are acceptable general monitoring approaches when conducted in accordance with the minimum requirements in paragraphs (w)(12)(iii) through (ix) of this section:

(a) Mass balance calculations for activities using coatings or solvents;

(b) CEMS;

(c) CPMS or PEMS; and

(d) Emission factors.

(iii) Mass balance calculations. An owner or operator using mass balance calculations to monitor PAL pollutant emissions from activities using coating or solvents shall meet the following requirements:

(a) Provide a demonstrated means of validating the published content of the PAL pollutant that is contained in or created by all materials used in or at the emissions unit;

(b) Assume that the emissions unit emits all of the PAL pollutant that is contained in or created by any raw material or fuel used in or at the emissions unit, if it cannot otherwise be accounted for in the process; and

(c) Where the vendor of a material or fuel, which is used in or at the emissions unit, publishes a range of pollutant content from such material, the owner or operator must use the highest value of the range to calculate the PAL pollutant emissions unless the reviewing authority determines there is site-specific data or a site-specific monitoring program to support another content within the range.

(iv) CEMS. An owner or operator using CEMS to monitor PAL pollutant emissions shall meet the following requirements:

(a) CEMS must comply with applicable Performance Specifications found in [40 CFR part 60, appendix B](#); and

(b) CEMS must sample, analyze, and record data at least every 15 minutes while the emissions unit is operating.

(v) CPMS or PEMS. An owner or operator using CPMS or PEMS to monitor PAL pollutant emissions shall meet the following requirements:

(a) The CPMS or the PEMS must be based on current site-specific data demonstrating a correlation between the monitored parameter(s) and the PAL pollutant emissions across the range of operation of the emissions unit; and

(b) Each CPMS or PEMS must sample, analyze, and record data at least every 15 minutes, or at another less frequent interval approved by the reviewing authority, while the emissions unit is operating.

(vi) Emission factors. An owner or operator using emission factors to monitor PAL pollutant emissions shall meet the following requirements:

(a) All emission factors shall be adjusted, if appropriate, to account for the degree of uncertainty or limitations in the factors' development;

(b) The emissions unit shall operate within the designated range of use for the emission factor, if applicable; and

(c) If technically practicable, the owner or operator of a significant emissions unit that relies on an emission factor to calculate PAL pollutant emissions shall conduct validation testing to determine a site-specific emission factor within 6 months of PAL permit issuance, unless the reviewing authority determines that testing is not required.

(vii) A source owner or operator must record and report maximum potential emissions without considering enforceable emission limitations or operational restrictions for an emissions unit during any period of time that there is no monitoring data, unless another method for determining emissions during such periods is specified in the PAL permit.

(viii) Notwithstanding the requirements in paragraphs (w)(12)(iii) through (vii) of this section, where an owner or operator of an emissions unit cannot demonstrate a correlation between the monitored parameter(s) and the PAL pollutant emissions rate at all operating points of the emissions unit, the reviewing authority shall, at the time of permit issuance:

(a) Establish default value(s) for determining compliance with the PAL based on the highest potential emissions reasonably estimated at such operating point(s); or

(b) Determine that operation of the emissions unit during operating conditions when there is no correlation between monitored parameter(s) and the PAL pollutant emissions is a violation of the PAL.

(ix) Re-validation. All data used to establish the PAL pollutant must be re-validated through performance testing or other scientifically valid means approved by the reviewing authority. Such testing must occur at least once every 5 years after issuance of the PAL.

(13) Recordkeeping requirements.

(i) The PAL permit shall require an owner or operator to retain a copy of all records necessary to determine compliance with any requirement of paragraph (w) of this section and of the PAL, including a determination of each emissions unit's 12-month rolling total emissions, for 5 years from the date of such record.

(ii) The PAL permit shall require an owner or operator to retain a copy of the following records, for the duration of the PAL effective period plus 5 years:

(a) A copy of the PAL permit application and any applications for revisions to the PAL; and

(b) Each annual certification of compliance pursuant to title V and the data relied on in certifying the compliance.

(14) Reporting and notification requirements. The owner or operator shall submit semi-annual monitoring reports and prompt deviation reports to the reviewing authority in accordance with the applicable title V operating permit program. The reports shall meet the requirements in paragraphs (w)(14)(i) through (iii) of this section.

(i) Semi-annual report. The semi-annual report shall be submitted to the reviewing authority within 30 days of the end of each reporting period. This report shall contain the information required in paragraphs (w)(14)(i)(a) through (g) of this section.

(a) The identification of owner and operator and the permit number.

(b) Total annual emissions (tons/year) based on a 12-month rolling total for each month in the reporting period recorded pursuant to paragraph (w)(13)(i) of this section.

(c) All data relied upon, including, but not limited to, any Quality Assurance or Quality Control data, in calculating the monthly and annual PAL pollutant emissions.

(d) A list of any emissions units modified or added to the major stationary source during the preceding 6-month period.

(e) The number, duration, and cause of any deviations or monitoring malfunctions (other than the time associated with zero and span calibration checks), and any corrective action taken.

(f) A notification of a shutdown of any monitoring system, whether the shutdown was permanent or temporary, the reason for the shutdown, the anticipated date that the monitoring system will be fully operational or replaced with another monitoring system, and whether the emissions unit monitored by the monitoring system continued to operate, and the calculation of the emissions of the pollutant or the number determined by method included in the permit, as provided by paragraph (w)(12)(vii) of this section.

(g) A signed statement by the responsible official (as defined by the applicable title V operating permit program) certifying the truth, accuracy, and completeness of the information provided in the report.

(ii) Deviation report. The major stationary source owner or operator shall promptly submit reports of any deviations or exceedance of the PAL requirements, including periods where no monitoring is available. A report submitted pursuant to § 70.6(a)(3)(iii)(B) of this chapter shall satisfy this reporting requirement. The deviation reports shall be submitted within the time limits prescribed by the applicable program implementing § 70.6(a)(3)(iii)(B) of this chapter. The reports shall contain the following information:

(a) The identification of owner and operator and the permit number;

(b) The PAL requirement that experienced the deviation or that was exceeded;

(c) Emissions resulting from the deviation or the exceedance; and

(d) A signed statement by the responsible official (as defined by the applicable title V operating permit program) certifying the truth, accuracy, and completeness of the information provided in the report.

(iii) Re-validation results. The owner or operator shall submit to the reviewing authority the results of any re-validation test or method within three months after completion of such test or method.

(15) Transition requirements.

(i) No reviewing authority may issue a PAL that does not comply with the requirements in paragraphs (w)(1) through (15) of this section after the Administrator has approved regulations incorporating these requirements into a plan.

(ii) The reviewing authority may supersede any PAL which was established prior to the date of approval of the plan by the Administrator with a PAL that complies with the requirements of paragraphs (w)(1) through (15) of this section.

(x) If any provision of this section, or the application of such provision to any person or circumstance, is held invalid, the remainder of this section, or the application of such provision to persons or circumstances other than those as to which it is held invalid, shall not be affected thereby.

(y) Equipment replacement provision. Without regard to other considerations, routine maintenance, repair and replacement includes, but is not limited to, the replacement of any component of a process unit with an identical or functionally equivalent component(s), and maintenance and repair activities that are part of the replacement activity, provided that all of the requirements in paragraphs (y)(1) through (3) of this section are met.

(1) Capital Cost threshold for Equipment Replacement.

(i) For an electric utility steam generating unit, as defined in § 51.166(b)(30), the fixed capital cost of the replacement component(s) plus the cost of any associated maintenance and repair activities that are part of the replacement shall not exceed 20 percent of the replacement value of the process unit, at the time the equipment is replaced. For a process unit that is not an electric utility steam generating unit the fixed capital cost of the replacement component(s) plus the cost of any associated maintenance and repair activities that are part of the replacement shall not exceed 20 percent of the replacement value of the process unit, at the time the equipment is replaced.

(ii) In determining the replacement value of the process unit; and, except as otherwise allowed under paragraph (y) (1)(iii) of this section, the owner or operator shall determine the replacement value of the process unit on an estimate of the fixed capital cost of constructing a new process unit, or on the current appraised value of the process unit.

(iii) As an alternative to paragraph (y)(1)(ii) of this section for determining the replacement value of a process unit, an owner or operator may choose to use insurance value (where the insurance value covers only complete replacement), investment value adjusted for inflation, or another accounting procedure if such procedure is based on Generally Accepted Accounting Principles, provided that the owner or operator sends a notice to the reviewing authority. The first time that an owner or operator submits such a notice for a particular process unit, the notice may be submitted at any time, but any subsequent notice for that process unit may be submitted only at the beginning of the process unit's fiscal year. Unless the owner or operator submits a notice to the reviewing authority, then paragraph (y)(1)(ii) of this section will be used to establish the replacement value of the process unit. Once the owner or operator submits a notice to use an alternative accounting procedure, the owner or operator must continue to use that procedure for the entire fiscal year for that process unit. In subsequent fiscal years, the owner or operator must continue to use this selected procedure unless and until the owner or operator sends another notice to the reviewing authority selecting another procedure consistent with this paragraph or paragraph (y)(1)(ii) of this section at the beginning of such fiscal year.

(2) Basic design parameters. The replacement does not change the basic design parameter(s) of the process unit to which the activity pertains.

(i) Except as provided in paragraph (y)(2)(iii) of this section, for a process unit at a steam electric generating facility, the owner or operator may select as its basic design parameters either maximum hourly heat input and maximum hourly fuel consumption rate or maximum hourly electric output rate and maximum steam flow rate. When establishing fuel consumption specifications in terms of weight or volume, the minimum fuel quality based on British Thermal Units content shall be used for determining the basic design parameter(s) for a coal-fired electric utility steam generating unit.

(ii) Except as provided in paragraph (y)(2)(iii) of this section, the basic design parameter(s) for any process unit that is not at a steam electric generating facility are maximum rate of fuel or heat input, maximum rate of material input, or maximum rate of product output. Combustion process units will typically use maximum rate of fuel input. For sources having multiple end products and raw materials, the owner or operator should consider the primary product or primary raw material when selecting a basic design parameter.

(iii) If the owner or operator believes the basic design parameter(s) in paragraphs (y)(2)(i) and (ii) of this section is not appropriate for a specific industry or type of process unit, the owner or operator may propose to the reviewing authority an alternative basic design parameter(s) for the source's process unit(s). If the reviewing authority approves of the use of an alternative basic design parameter(s), the reviewing authority shall issue a permit that is legally enforceable that records such basic design parameter(s) and requires the owner or operator to comply with such parameter(s).

(iv) The owner or operator shall use credible information, such as results of historic maximum capability tests, design information from the manufacturer, or engineering calculations, in establishing the magnitude of the basic design parameter(s) specified in paragraphs (y)(2)(i) and (ii) of this section.

(v) If design information is not available for a process unit, then the owner or operator shall determine the process unit's basic design parameter(s) using the maximum value achieved by the process unit in the five-year period immediately preceding the planned activity.

(vi) Efficiency of a process unit is not a basic design parameter.

(3) The replacement activity shall not cause the process unit to exceed any emission limitation, or operational limitation that has the effect of constraining emissions, that applies to the process unit and that is legally enforceable.

Note to paragraph (y): By a court order on December 24, 2003, this paragraph (y) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(Authority: Secs. 101(b)(1), 110, 160–169, 171–178, and 301(a), Clean Air Act, as amended (42 U.S.C. 7401(b)(1), 7410, 7470–7479, 7501–7508, and 7601(a)); sec. 129(a), Clean Air Act Amendments of 1977 (Pub.L. 95–95, 91 Stat. 685 (Aug. 7, 1977)))

Credits

[43 FR 26382, June 19, 1978; 43 FR 40010, Sept. 8, 1978, as amended at 44 FR 27569, May 10, 1979; 45 FR 52729, Aug. 7, 1980; 47 FR 27560, June 25, 1982; 49 FR 43209, Oct. 26, 1984; 51 FR 40661, 40675, Nov. 7, 1986; 52 FR 24713, July 1, 1987; 52 FR 29386, Aug. 7, 1987; 53 FR 40670, Oct. 17, 1988; 54 FR 27285, 27299, June 28, 1989; 56 FR 5506, Feb. 11, 1991; 57 FR 3946, Feb. 3, 1992; 57 FR 32335, July 21, 1992; 58 FR 31636, June 3, 1993; 58 FR 38822, July 20, 1993; 60 FR 40468, Aug. 9, 1995; 61 FR 9918, March 12, 1996; 61 FR 41840, Aug. 12, 1996; 67 FR 80259, 80260, Dec. 31, 2002; 68 FR 61278, Oct. 27, 2003; 68 FR 63028, Nov. 7, 2003; 69 FR 40275, July 1, 2004; 70 FR 59618, Oct. 12, 2005; 70 FR 71699, Nov. 29, 2005; 72 FR 24077, May 1, 2007; 72 FR 32528, June 13, 2007; 72 FR 72616, Dec. 21, 2007; 73 FR 28347, May 16, 2008; 73 FR 77897, Dec. 19, 2008; 74 FR 50116, Sept. 30, 2009; 74 FR 65695, Dec. 11, 2009; 75 FR

16016, March 31, 2010; 75 FR 31606, June 3, 2010; 75 FR 64902, Oct. 20, 2010; 76 FR 17553, March 30, 2011; 76 FR 18870, April 6, 2011; 76 FR 43507, July 20, 2011; 77 FR 65118, Oct. 25, 2012; 78 FR 3281, Jan. 15, 2013; 78 FR 73702, Dec. 9, 2013; 80 FR 12318, March 6, 2015; 80 FR 50203, Aug. 19, 2015; 80 FR 65460, Oct. 26, 2015; 81 FR 35632, June 3, 2016; 81 FR 71629, Oct. 18, 2016]

AUTHORITY: 23 U.S.C. 101; 42 U.S.C. 7401–7671q.

Notes of Decisions (80)

Current through November 2, 2018; 83 FR 55110.

Footnotes

- 1 No de minimis air quality level is provided for ozone. However, any net emissions increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to PSD would be required to perform an ambient impact analysis, including the gathering of air quality data.

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter C. Air Programs

Part 52. Approval and Promulgation of Implementation Plans (Refs & Annos)

Subpart A. General Provisions (Refs & Annos)

40 C.F.R. § 52.21

§ 52.21 Prevention of significant deterioration of air quality.

Effective: December 7, 2016

Currentness

(a)(1) Plan disapproval. The provisions of this section are applicable to any State implementation plan which has been disapproved with respect to prevention of significant deterioration of air quality in any portion of any State where the existing air quality is better than the national ambient air quality standards. Specific disapprovals are listed where applicable, in subparts B through DDD and FFF of this part. The provisions of this section have been incorporated by reference into the applicable implementation plans for various States, as provided in subparts B through DDD and FFF of this part. Where this section is so incorporated, the provisions shall also be applicable to all lands owned by the Federal Government and Indian Reservations located in such State. No disapproval with respect to a State's failure to prevent significant deterioration of air quality shall invalidate or otherwise affect the obligations of States, emission sources, or other persons with respect to all portions of plans approved or promulgated under this part.

(2) Applicability procedures.

(i) The requirements of this section apply to the construction of any new major stationary source (as defined in paragraph (b)(1) of this section) or any project at an existing major stationary source in an area designated as attainment or unclassifiable under sections 107(d)(1)(A)(ii) or (iii) of the Act.

(ii) The requirements of paragraphs (j) through (r) of this section apply to the construction of any new major stationary source or the major modification of any existing major stationary source, except as this section otherwise provides.

(iii) No new major stationary source or major modification to which the requirements of paragraphs (j) through (r) (5) of this section apply shall begin actual construction without a permit that states that the major stationary source or major modification will meet those requirements. The Administrator has authority to issue any such permit.

(iv) The requirements of the program will be applied in accordance with the principles set out in paragraphs (a)(2) (iv)(a) through (f) of this section.

(a) Except as otherwise provided in paragraphs (a)(2)(v) and (vi) of this section, and consistent with the definition of major modification contained in paragraph (b)(2) of this section, a project is a major modification for a regulated NSR pollutant if it causes two types of emissions increases—a significant emissions increase (as

Note to paragraph (b)(55): By a court order on December 24, 2003, this paragraph (b)(55) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(56) Functionally equivalent component means a component that serves the same purpose as the replaced component.

Note to paragraph (b)(56): By a court order on December 24, 2003, this paragraph (b)(56) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(57) Fixed capital cost means the capital needed to provide all the depreciable components. “Depreciable components” refers to all components of fixed capital cost and is calculated by subtracting land and working capital from the total capital investment, as defined in paragraph (b)(58) of this section.

Note to paragraph (b)(57): By a court order on December 24, 2003, this paragraph (b)(57) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(58) Total capital investment means the sum of the following: all costs required to purchase needed process equipment (purchased equipment costs); the costs of labor and materials for installing that equipment (direct installation costs); the costs of site preparation and buildings; other costs such as engineering, construction and field expenses, fees to contractors, startup and performance tests, and contingencies (indirect installation costs); land for the process equipment; and working capital for the process equipment.

Note to paragraph (b)(58): By a court order on December 24, 2003, this paragraph (b)(58) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the Federal Register advising the public of the termination of the stay.

(c) Ambient air increments. In areas designated as Class I, II or III, increases in pollutant concentration over the baseline concentration shall be limited to the following:

Pollutant	Maximum allowable increase (micrograms per cubic meter)
Class I Area	
PM _{2.5} :	
Annual arithmetic mean.....	1
24-hr maximum.....	2
PM ₁₀ :	

Annual arithmetic mean.....	4
24-hr maximum.....	8
Sulfur dioxide:	
Annual arithmetic mean.....	2
24-hr maximum.....	5
3-hr maximum.....	25
Nitrogen dioxide:	
Annual arithmetic mean.....	2.5
Class II Area	
PM _{2.5} :	
Annual arithmetic mean.....	4
24-hr maximum.....	9
PM ₁₀ :	
Annual arithmetic mean.....	17
24-hr maximum.....	30
Sulfur dioxide:	
Annual arithmetic mean.....	20
24-hr maximum.....	91
3-hr maximum.....	512
Nitrogen dioxide:	
Annual arithmetic mean.....	25
Class III Area	
PM _{2.5} :	
Annual arithmetic mean.....	8
24-hr maximum.....	18
PM ₁₀ :	
Annual arithmetic mean.....	34
24-hr maximum.....	60
Sulfur dioxide:	

Annual arithmetic mean.....	40
24-hr maximum.....	182
3-hr maximum.....	700
Nitrogen dioxide:	
Annual arithmetic mean.....	50

For any period other than an annual period, the applicable maximum allowable increase may be exceeded during one such period per year at any one location.

(d) Ambient air ceilings. No concentration of a pollutant shall exceed:

- (1) The concentration permitted under the national secondary ambient air quality standard, or
- (2) The concentration permitted under the national primary ambient air quality standard, whichever concentration is lowest for the pollutant for a period of exposure.

(e) Restrictions on area classifications.

(1) All of the following areas which were in existence on August 7, 1977, shall be Class I areas and may not be redesignated:

- (i) International parks,
- (ii) National wilderness areas which exceed 5,000 acres in size,
- (iii) National memorial parks which exceed 5,000 acres in size, and
- (iv) National parks which exceed 6,000 acres in size.

(2) Areas which were redesignated as Class I under regulations promulgated before August 7, 1977, shall remain Class I, but may be redesignated as provided in this section.

(3) Any other area, unless otherwise specified in the legislation creating such an area, is initially designated Class II, but may be redesignated as provided in this section.

(4) The following areas may be redesignated only as Class I or II: