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#### List of Subjects in 33 CFR Part 100

Marine safety, Navigation (water), Reporting and recordkeeping requirements, Waterways.

For the reasons discussed in the preamble, the Coast Guard proposes to amend 33 CFR part 100 as follows:

#### PART 100—SAFETY OF LIFE ON NAVIGABLE WATERS

■ 1. The authority citation for part 100 continues to read as follows:

**Authority:** 33 U.S.C. 1233.

■ 2. Add § 100.T13–0334 to read as follows:

##### § 100.T13–0334 Special Local Regulation; Commencement Bay, Tacoma, WA

(a) *Location.* The special local regulations found in paragraph (c) apply in the following areas.

(1) *Race Area.* All waters of Commencement Bay encompassed within an imaginary line connecting the following coordinates: Starting at point 1 in position 47°18'9.6" N., 122°30'23.6" W.; thence northeast to Point 2 in position 47°18'15.2" N., 122°30'14.4" W.; thence east to Point 3 in position 47°18'15.2" N., 122°28'46.7" W.; thence south to Point 4 in position 47°17'20.1" N., 122°28'46.9" W.; thence southwest to Point 5 in position 47°17'5.5" N., 122°29'6.4" W.; thence northwest back to origin.

(2) *Spectator Area.* All waters of Commencement Bay encompassed within an imaginary line connecting the following points: Starting at Point 1 in position 47°18'15.2" N., 122°28'46.7" W.; thence east to Point 2 in position 47°17'20.1" N., 122°28'46.9" W.; thence south to Point 3 in position 47°17'19.8" N., 122°28'38.1" W.; thence west to Point 4 in position 47°18'15.5" N., 122°28'46.1" W.; thence north back to origin.

(b) *Definitions.* For the purpose of this section the following definitions apply:

*Designated representative* means a Coast Guard Patrol Commander, including a Coast Guard coxswain, petty officer, or other officer operating a Coast Guard vessel and a Federal, State, and local officer designated by or assisting the Captain of the Port Puget Sound

(COTP) in the enforcement of the regulated areas identified in paragraph (a)(1) and (a)(2) of this section.

*Patrol Vessel* means any Coast Guard vessel, Coast Guard Auxiliary vessel, or other federal, state or local law enforcement vessel.

(c) *Special Local Regulations.* (1) All persons and vessels, except those persons and vessels participating in the high-speed water ski races, are prohibited from entering, transiting through, anchoring in, or remaining within the race area.

(2) All persons and vessels entering, exiting, or moving within the spectator area must operate at speeds, which will create a minimum wake, and will not exceed seven knots. The maximum speed may be reduced at the discretion of the Patrol Commander.

(3) A succession of sharp, short signals by whistle or horn from a Patrol Vessel will serve as a signal to stop. Vessels signaled must stop and comply with the orders of the Patrol Vessel. Failure to do so may result in expulsion from the area, citation for failure to comply, or both.

(4) Persons and vessels desiring to enter, transit through, anchor in, remain within or transit in excess of wake speed within any of the regulated areas must contact the Captain of the Port Puget Sound by telephone at (206) 217–6002, or a designated representative via VHF–FM radio on channel 16 to request authorization. If authorization is granted, all persons and vessels receiving such authorization must comply with the instructions of the Captain of the Port Puget Sound or a designated representative.

(d) *Notice of Enforcement.* The Coast Guard will provide notice of the enforcement of this Special Local Regulation by all appropriate means to ensure the widest dissemination among the public, as practicable; such means of notification may include but are not limited to, Broadcast Notice to Mariners, Local Notice to Mariners, and by on-scene designated representatives.

(e) *Enforcement Period.* This rule is effective from 9 a.m. to 6 p.m. on July 29, 31, and August 2, 2017, unless cancelled sooner by the Captain of the Port Puget Sound.

Dated: May 5, 2017.

**B.C. McPherson,**

*CAPT, U.S. Coast Guard, Acting Commander, Thirteenth Coast Guard District.*

[FR Doc. 2017–10212 Filed 5–18–17; 8:45 am]

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## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 52

[EPA–R06–OAR–2017–0129; FRL–9961–28–Region 6]

#### Approval and Promulgation of Implementation Plans; Louisiana; Regional Haze State Implementation Plan

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** Pursuant to the Federal Clean Air Act (CAA or the Act), the Environmental Protection Agency (EPA) is proposing to approve a portion of a revision to the Louisiana State Implementation Plan (SIP) submitted by the State of Louisiana through the Louisiana Department of Environmental Quality (LDEQ) on February 10, 2017, that addresses regional haze requirements for the first planning period. LDEQ submitted this SIP revision to address deficiencies identified by the EPA in a previous action. The EPA is proposing to approve the majority of the SIP revision, which addresses the CAA requirement that certain categories of existing major stationary sources built between 1962 and 1977 procure and install the Best Available Retrofit Technology (BART), while deferring action on LDEQ's BART determination for a single facility. Specifically, the EPA is proposing to approve most of LDEQ's BART evaluations and conclusions for Louisiana's BART-eligible electric generating unit (EGU) sources and to approve LDEQ's sulfur-dioxide (SO<sub>2</sub>) and particulate-matter (PM) emission limits for those sources that are subject to BART. The EPA is also proposing to approve Louisiana's reliance on the Cross-State Air Pollution Rule (CSAPR) trading program for ozone-season nitrogen oxides (NO<sub>x</sub>) as a permissible alternative to source-specific NO<sub>x</sub> BART emission limits. This action is being taken under sections 110 and 169A of the CAA.

**DATES:** Written comments must be received on or before June 19, 2017.

**ADDRESSES:** Submit your comments, identified by Docket No. EPA–R06–OAR–2017–0129, at <http://www.regulations.gov> or via email to [R6\\_LA\\_BART@epa.gov](mailto:R6_LA_BART@epa.gov). Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from *Regulations.gov*. The EPA may publish any comment received to its public docket. Do not submit electronically any information

you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.* on the web, cloud, or other file sharing system). For additional submission methods, please contact Jennifer Huser, [huser.jennifer@epa.gov](mailto:huser.jennifer@epa.gov). For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets>.

**Docket:** The index to the docket for this action is available electronically at [www.regulations.gov](http://www.regulations.gov) and in hard copy at the EPA Region 6, 1445 Ross Avenue, Suite 700, Dallas, Texas. While all documents in the docket are listed in the index, some information may be publicly available only at the hard copy location (*e.g.*, copyrighted material), and some may not be publicly available at either location (*e.g.*, CBI).

**FOR FURTHER INFORMATION CONTACT:** Jennifer Huser, 214-665-7347, [huser.jennifer@epa.gov](mailto:huser.jennifer@epa.gov). To inspect the hard copy materials, please schedule an appointment with Jennifer Huser or Mr. Bill Deese at 214-665-7253.

**SUPPLEMENTARY INFORMATION:** Throughout this document wherever “we,” “us,” or “our” is used, we mean the EPA.

## Table of Contents

- I. Background
  - A. The Regional Haze Program
  - B. Our Previous Actions on Louisiana Regional Haze
  - C. CSAPR as an Alternative to Source-Specific NO<sub>x</sub> BART
- II. Our Evaluation of Louisiana’s BART Analysis
  - A. Identification of BART-Eligible Sources
  - B. Evaluation of Which Sources Are Subject to BART
  - C. Sources That Are No Longer in Operation
  - D. Sources That Screened Out of BART
    - 1. Visibility Impairment Threshold
    - 2. Model Plant Analysis
    - 3. CALPUFF Modeling To Screen Out Sources
  - E. Subject to BART Sources
    - 1. Reliance on CSAPR To Satisfy NO<sub>x</sub> BART
    - 2. Sources That Deferred a Five-Factor Analysis Due to a Change in Operation
    - 3. Louisiana’s Five-Factor Analyses for SO<sub>2</sub> and PM BART

- a. Cleco Brame Energy Center
- b. Entergy Little Gypsy
- c. Entergy Ninemile Point
- d. Entergy Waterford

### III. Proposed Action

### IV. Statutory and Executive Order Reviews

## I. Background

### A. The Regional Haze Program

Regional haze is visibility impairment that is produced by a multitude of sources and activities that are located across a broad geographic area and emit fine particulates (PM<sub>2.5</sub>) (*e.g.*, sulfates, nitrates, organic carbon (OC), elemental carbon (EC), and soil dust), and their precursors (*e.g.*, sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and in some cases, ammonia (NH<sub>3</sub>) and volatile organic compounds (VOCs)). Fine particle precursors react in the atmosphere to form PM<sub>2.5</sub>, which impairs visibility by scattering and absorbing light. Visibility impairment reduces the clarity, color, and visible distance that can be seen. PM<sub>2.5</sub> can also cause serious adverse health effects and mortality in humans; it also contributes to environmental effects such as acid deposition and eutrophication.

Data from the existing visibility monitoring network, “Interagency Monitoring of Protected Visual Environments” (IMPROVE), shows that visibility impairment caused by air pollution occurs virtually all the time at most national parks and wilderness areas. In 1999, the average visual range in many Class I areas (*i.e.*, national parks and memorial parks, wilderness areas, and international parks meeting certain size criteria) in the western United States was 100–150 kilometers, or about one-half to two-thirds of the visual range that would exist without anthropogenic air pollution. In most of the eastern Class I areas of the United States, the average visual range was less than 30 kilometers, or about one-fifth of the visual range that would exist under estimated natural conditions. CAA programs have reduced some haze-causing pollution, lessening some visibility impairment and resulting in partially improved average visual ranges.

CAA requirements to address the problem of visibility impairment continue to be implemented. In Section 169A of the 1977 Amendments to the CAA, Congress created a program for protecting visibility in the nation’s national parks and wilderness areas. This section of the CAA establishes as a national goal the prevention of any future, and the remedying of any existing, man-made impairment of visibility in 156 national parks and wilderness areas designated as

mandatory Class I Federal areas. On December 2, 1980, EPA promulgated regulations to address visibility impairment in Class I areas that is “reasonably attributable” to a single source or small group of sources, *i.e.*, “reasonably attributable visibility impairment.” These regulations represented the first phase in addressing visibility impairment. EPA deferred action on regional haze that emanates from a variety of sources until monitoring, modeling, and scientific knowledge about the relationships between pollutants and visibility impairment were improved.

Congress added section 169B to the CAA in 1990 to address regional haze issues, and EPA promulgated regulations addressing regional haze in 1999. The Regional Haze Rule revised the existing visibility regulations to add provisions addressing regional haze impairment and established a comprehensive visibility protection program for Class I areas. The requirements for regional haze, found at 40 CFR 51.308 and 51.309, are included in our visibility protection regulations at 40 CFR 51.300–309. The requirement to submit a regional haze SIP applies to all 50 states, the District of Columbia, and the Virgin Islands. States were required to submit the first implementation plan addressing regional haze visibility impairment no later than December 17, 2007.

Section 169A of the CAA directs states to evaluate the use of retrofit controls at certain larger, often under-controlled, older stationary sources in order to address visibility impacts from these sources. Specifically, section 169A(b)(2)(A) of the CAA requires states to revise their SIPs to contain such measures as may be necessary to make reasonable progress toward the natural visibility goal, including a requirement that certain categories of existing major stationary sources built between 1962 and 1977 procure, install and operate the “Best Available Retrofit Technology” (BART). Larger “fossil-fuel fired steam electric plants” are one of these source categories. Under the Regional Haze Rule, states are directed to conduct BART determinations for “BART-eligible” sources that may be anticipated to cause or contribute to any visibility impairment in a Class I area. The evaluation of BART for electric generating units (EGUs) that are located at fossil-fuel fired power plants having a generating capacity in excess of 750 megawatts must follow the “Guidelines for BART Determinations Under the Regional Haze Rule” at appendix Y to 40 CFR part 51 (hereinafter referred to as the “BART Guidelines”). Rather than

requiring source-specific BART controls, states also have the flexibility to adopt an emissions trading program or other alternative program as long as the alternative provides for greater progress towards improving visibility than BART.

*B. Our Previous Actions on Louisiana Regional Haze*

On June 13, 2008, Louisiana submitted a SIP to address regional haze (2008 Louisiana Regional Haze SIP or 2008 SIP revision). We acted on that submittal in two separate actions. Our first action was a limited disapproval<sup>1</sup> because of deficiencies in the state’s regional haze SIP submittal arising from the remand by the U.S. Court of Appeals for the District of Columbia of the Clean Air Interstate Rule (CAIR). Our second action was a partial limited approval/partial disapproval<sup>2</sup> because the 2008 SIP revision met some but not all of the applicable requirements of the CAA and our regulations as set forth in sections 169A and 169B of the CAA and 40 CFR 51.300–308, but as a whole, the 2008 SIP revision strengthened the SIP. On August 11, 2016, Louisiana submitted a SIP revision to address the deficiencies related to BART for four non-EGU facilities. We proposed to approve that revision on October 27, 2016.<sup>3</sup> On February 10, 2017, Louisiana submitted a SIP revision intended to address the deficiencies related to BART for EGU sources (2017 Louisiana Regional Haze SIP or 2017 SIP revision), a portion of which is the subject of this proposed action.

*C. CSAPR as an Alternative to Source-Specific NO<sub>x</sub> BART*

In 2005, the EPA published CAIR, which required 28 states and the District of Columbia to reduce emissions of SO<sub>2</sub> and NO<sub>x</sub> that significantly contribute to or interfere with maintenance of the 1997 national ambient air quality

standards (NAAQS) for fine particulates and/or 8-hour ozone in any downwind state.<sup>4</sup> EPA demonstrated that CAIR would achieve greater reasonable progress toward the national visibility goal than would BART; and therefore, states could rely on CAIR as an alternative to EGU BART for SO<sub>2</sub> and NO<sub>x</sub>.<sup>5</sup>

Louisiana’s 2008 Regional Haze SIP relied on participation in CAIR as an alternative to meeting the source-specific EGU BART requirements for SO<sub>2</sub> and NO<sub>x</sub>.<sup>6</sup> Shortly after Louisiana submitted its SIP to us, however, the D.C. Circuit remanded CAIR (without vacatur).<sup>7</sup> The court thereby left CAIR and CAIR Federal Implementation Plans (FIPs) in place in order to “temporarily preserve the environmental values covered by CAIR” until we could, by rulemaking, replace CAIR consistent with the court’s opinion.<sup>8</sup> In 2011, we promulgated the Cross-State Air Pollution Rule (CSAPR) to replace CAIR.<sup>9</sup> While EGUs in Louisiana were required to participate in CAIR for both SO<sub>2</sub> and NO<sub>x</sub>, Louisiana EGUs are only included in CSAPR for ozone-season NO<sub>x</sub>.<sup>10</sup>

In 2012, we issued a limited disapproval of Louisiana’s and several other states’ regional haze SIPs because of reliance on CAIR as an alternative to EGU BART for SO<sub>2</sub> and/or NO<sub>x</sub>.<sup>11</sup> We also determined that CSAPR would provide for greater reasonable progress than BART and amended the Regional Haze Rule to allow CSAPR participation as an alternative to source-specific SO<sub>2</sub> and/or NO<sub>x</sub> BART for EGUs, on a pollutant-specific basis.<sup>12</sup> Because Louisiana EGUs are included in CSAPR for NO<sub>x</sub>, Louisiana can rely on CSAPR better than BART for NO<sub>x</sub>. However, Louisiana’s regional haze program must include source-by-source EGU BART demonstrations for all other visibility impairing pollutants, namely, SO<sub>2</sub> and PM.

CSAPR has been subject to extensive litigation, and on July 28, 2015, the D.C. Circuit issued a decision generally upholding CSAPR but remanding without vacating the CSAPR emissions budgets for a number of states.<sup>13</sup> We are in the process of responding to the remand of these CSAPR budgets. On October 26, 2016, we finalized an update to the CSAPR rule that addresses the 1997 ozone NAAQS portion of the remand and the CAA requirements addressing interstate transport for the 2008 ozone NAAQS.<sup>14</sup> Additionally, three states, Alabama, Georgia, and South Carolina, have adopted or committed to adopt SIPs to replace the remanded FIPs and will continue the states’ participation in the CSAPR program on a voluntary basis with the same budgets. On November 10, 2016, we proposed a rule intended to address the remainder of the court’s remand as it relates to Texas.<sup>15</sup> This separate proposed rule includes an assessment of the impacts of the set of actions that the EPA has taken or expects to take in response to the D.C. Circuit’s remand on our 2012 demonstration that participation in CSAPR provides for greater reasonable progress than BART. Based on that assessment, the EPA proposed that states may continue to rely on CSAPR as being better than BART on a pollutant-specific basis.

**II. Our Evaluation of Louisiana’s BART Analysis**

*A. Identification of BART-Eligible Sources*

In our partial disapproval and partial limited approval of the 2008 Louisiana Regional Haze SIP, we approved LDEQ’s identification of 76 BART-eligible sources.<sup>16</sup> Table 1 lists the EGU sources that were identified in the 2008 Louisiana Regional Haze SIP submittal as BART-eligible.

TABLE 1—IDENTIFICATION OF BART-ELIGIBLE EGU SOURCES

Facility name	Units	Parish
Cleco Rodemacher/Brame .....	Nesbitt I (Unit 1), Rodemacher II (Unit 2).	Rapides.

<sup>1</sup> 77 FR 33642 (June 7, 2012).

<sup>2</sup> 77 FR 39425 (July 3, 2012).

<sup>3</sup> 81 FR 74750 (October 27, 2016).

<sup>4</sup> 70 FR 25161 (May 12, 2005).

<sup>5</sup> 70 FR 39104, 39139 (July 6, 2005).

<sup>6</sup> See 40 CFR 51.308(e)(4) (2006).

<sup>7</sup> The court decided to vacate CAIR on July 11, 2008, and revised its decision, so as to remand the rule without vacatur, on December 23, 2008. *North Carolina v. EPA*, 531 F.3d 896, 901 (D.C. Cir. 2008), modified, 550 F.3d 1176 (D.C. Cir. 2008).

Louisiana’s initial Regional Haze SIP was submitted on June 13, 2008. 77 FR 39425.

<sup>8</sup> 550 F.3d at 1178.

<sup>9</sup> 76 FR 48207 (August 8, 2011).

<sup>10</sup> 76 FR 82219, at 82226 (December 30, 2011).

<sup>11</sup> The limited disapproval triggered the EPA’s obligation to issue a FIP or approve a SIP revision to correct the relevant deficiencies within 2 years of the final limited disapproval action. CAA section 110(c)(1); 77 FR 33642, at 33654 (August 6, 2012).

<sup>12</sup> While that rulemaking also promulgated FIPs for several states to replace reliance on CAIR with

reliance on CSAPR as an alternative to BART, it did not include a FIP for Louisiana. 77 FR 33642, 33654.

<sup>13</sup> Louisiana’s ozone season NO<sub>x</sub> budgets were not included in the remand. *EME Homer City Generation v. EPA*, 795 F.3d 118, 138 (D.C. Cir. 2015).

<sup>14</sup> 81 FR 74504 (October 26, 2016).

<sup>15</sup> 81 FR 78954 (November 10, 2016).

<sup>16</sup> See 77 FR 11839 at 11848 (February 28, 2012).

TABLE 1—IDENTIFICATION OF BART-ELIGIBLE EGU SOURCES—Continued

Facility name	Units	Parish
Cleco Teche .....	Unit 3 .....	St. Mary.
Entergy Sterlington .....	Unit 7 .....	Ouachita.
Entergy Michoud .....	Units 2 and 3 .....	Orleans.
Entergy Waterford .....	Units 1, 2, and auxiliary boiler .....	St. Charles.
Entergy Willow Glen .....	Units 2, 3, 4, 5, auxiliary boiler .....	Iberville.
Entergy Ninemile Point .....	Units 4 and 5 .....	Jefferson.
Entergy Nelson* .....	Units 4, 6, and auxiliary boiler .....	Calcasieu.
Entergy Little Gypsy .....	Units 2, 3, and auxiliary boiler .....	St. Charles.
Louisiana Generating (NRG) Big Cajun I .....	Units 1 and 2 .....	Point Coupee.
Louisiana Generating (NRG) Big Cajun II .....	Units 1 and 2 .....	Point Coupee.
Louisiana Energy and Power Authority Plaquemine Steam Plant .....	Boilers 1 and 2 .....	Iberville.
Louisiana Energy and Power Authority Morgan City Steam Plant .....	Units 1, 2, 3, and 4 boilers .....	St. Mary/St. Martin.
City of Ruston—Ruston Electric Generating Plant .....	Boilers 1, 2, and 3 .....	Lincoln.
Lafayette Utilities System Louis “Doc” Bonin Electric Generating Station .....	Units 1, 2, and 3 .....	Lafayette.
Terrebonne Parish Consolidated Government Houma Generating Station .....	Units 15 and 16 .....	Terrebonne.
City of Natchitoches Utility Department .....	3 boilers .....	Natchitoches.

\*We are not acting on BART determinations for Entergy Nelson in this action. We will address BART for Entergy Nelson in a future rulemaking.

*B. Evaluation of Which Sources Are Subject to BART*

Because Louisiana’s 2008 Regional Haze SIP relied on CAIR as better than BART for EGUs, the submittal did not include a determination of which BART-eligible EGUs were subject to BART. On May 19, 2015, we sent CAA Section 114 letters to several BART-eligible sources in Louisiana. In those letters, we noted our understanding that the sources were actively working with LDEQ to develop a SIP. However, in order to be in a position to develop a FIP should that be necessary, we requested information regarding the BART-eligible sources. The Section 114 letters required sources to conduct modeling to determine if the sources were subject to BART, and included a modeling protocol. The letters also

requested that a BART analysis be performed in accordance with the BART Guidelines for those sources determined to be subject to BART. We worked closely with those BART-eligible facilities and with LDEQ to this end, and all the information we received from the facilities was also sent to LDEQ. As a result, the LDEQ submitted a revised SIP submittal on February 10, 2017, that evaluates BART-eligible EGUs in the State and provides a BART determination for each such source for all visibility impairing pollutants except NO<sub>x</sub>. This proposal addresses the entire 2017 Louisiana Regional Haze SIP, but for the portion concerning one BART-eligible EGU facility, specifically the Entergy Nelson facility. We will propose action on the Entergy Nelson portion of the SIP at a later date. We note that Louisiana unintentionally omitted

discussion of two BART-eligible facilities in its 2017 Louisiana Regional Haze SIP: Terrebonne Parish Consolidated Government Houma Generating Station and Louisiana Energy and Power Authority Plaquemine Steam Plant. We will address these two sources in the model plant analysis section below.

*C. Sources That Are No Longer in Operation*

Several sources that were identified as BART-eligible have since retired from operation, rendering them no longer subject to the requirements of the Regional Haze Rule. For the units identified in the Table 2, the LDEQ provided documentation supporting permit rescissions to make these retirements permanent and enforceable.<sup>17</sup>

TABLE 2—RETIRED SOURCES

Facility name	Units	Parish
Louisiana Energy and Power Authority, Morgan City Steam Plant .....	Units 1, 2, 3, and 4 boilers .....	St. Mary/St. Martin.
City of Ruston, Ruston Electric Generating Plant .....	Boilers 1, 2, and 3 .....	Lincoln.
City of Natchitoches Utility Department .....	3 boilers .....	Natchitoches.

In addition, Entergy Michoud Units 2 and 3 were identified as BART-eligible, but are no longer in operation. By letter dated August 10, 2016, Entergy System Operating Committee elected to permanently retire Michoud Units 2 and 3, effective June 1, 2016. This action was described in detail through a permit application to the state. As of the time of this proposal, LDEQ has not yet finalized that permit. The 2017

Louisiana Regional Haze SIP includes the Air Permit Briefing Sheet that confirms Entergy’s request to remove Units 2 and 3 from the permit.<sup>18</sup> We propose to approve the SIP based on the draft permit, and note that we expect the proposed permit removing Units 2 and 3 to be final before we take final action to approve this portion of the 2017 Louisiana Regional Haze SIP. Alternatively, LDEQ could submit

another enforceable document to ensure that Units 2 and 3 cannot restart without a BART analysis and emission limits, or demonstrate the units have been deconstructed to the point that they cannot restart without obtaining a new NSR permit, making them not operational during the timeframe for BART eligibility.

<sup>17</sup> See Appendix E of the 2017 Louisiana Regional Haze SIP for supporting documentation and the TSD for this action for additional information.

<sup>18</sup> See Appendix D of the 2017 Louisiana Regional Haze SIP.

#### D. Sources That Screened Out of BART

Once a list of BART-eligible sources still in operation within a state has been compiled, the state must determine whether to make BART determinations for all of them or to consider exempting some of them from BART because they are not reasonably anticipated to cause or contribute to any visibility impairment in a Class I area. The BART Guidelines present several options that rely on modeling analyses and/or emissions analyses to determine if a source is not reasonably anticipated to cause or contribute to visibility impairment in a Class I area. A source that is not reasonably anticipated to cause or contribute to any visibility impairment in a Class I area is not “subject to BART,” and for such sources, a state need not apply the five statutory factors to make a BART determination.<sup>19</sup> Those sources are determined to be not subject to BART. Sources that are reasonably anticipated to cause or contribute to any visibility impairment in a Class I area are subject to BART.<sup>20</sup> For each source subject to BART, 40 CFR 51.308(e)(1)(ii)(A) requires that the LDEQ identify the level of control representing BART after considering the factors set out in CAA section 169A(g)(2). To determine which sources are anticipated to contribute to visibility impairment, the BART Guidelines state “you can use CALPUFF or other appropriate model to estimate the visibility impacts from a single source at a Class I area.”<sup>21</sup>

##### 1. Visibility Impairment Threshold

The preamble to the BART Guidelines advises that, “for purposes of determining which sources are subject to BART, States should consider a 1.0 deciview<sup>22</sup> change or more from an individual source to ‘cause’ visibility impairment, and a change of 0.5 deciviews to ‘contribute’ to impairment.”<sup>23</sup> It further advises that “States should have discretion to set an appropriate threshold depending on the facts of the situation,” and describes situations in which states may wish to exercise that discretion, mainly in situations in which a number of sources

in an area are all contributing fairly equally to the visibility impairment of a Class I area. In Louisiana’s 2008 Regional Haze SIP submittal, the LDEQ used a contribution threshold of 0.5 dv for determining which sources are subject to BART, and we approved this threshold in our previous action.<sup>24</sup> The 2017 SIP revision includes a full five factor BART determination for each of the State’s BART-eligible EGUs whose visibility impacts exceed the 0.5 dv threshold.

##### 2. Model Plant Analysis

As part of our development of the BART Guidelines, we developed analyses of model plants with representative plume and stack characteristics for both EGU and non-EGU sources using the CALPUFF model.<sup>25</sup> As we discuss in the BART Guidelines,<sup>26</sup> based on those analyses, we believe that sources that emit less than 1,000 tons per year of NO<sub>x</sub> and SO<sub>2</sub> and that are located more than 100 km from any Class I area can be exempted from the BART determination. The BART Guidelines note that the model plant concept can be extended using additional modeling analyses to ratios of emission levels and distances other than 1,000 tons/100 km. The BART Guidelines explain that: “you may find based on representative plant analyses that certain types of sources are not reasonably anticipated to cause or contribute to visibility impairment. To do this, you may conduct your own modeling to establish emission levels and distances from Class I areas on which you can rely to exempt sources with those characteristics.”<sup>27</sup> Modeling analyses of representative plants are used to reflect groupings of specific sources with important common characteristics.

As we mention above, we note that Louisiana unintentionally omitted discussion of two BART-eligible facilities in its 2017 Louisiana Regional Haze SIP: Terrebonne Parish Consolidated Government Houma Generating Station (Houma) and Louisiana Energy and Power Authority Plaquemine Steam Plant (Plaquemine). However, Louisiana’s 2008 Regional Haze SIP submittal identified these two sources as BART-eligible, and we approved the inclusion of these two

sources on that list in 2012.<sup>28</sup> The LDEQ has indicated that it inadvertently failed to address whether these two sources are subject to BART in the 2017 Regional Haze SIP. These two sources were included in its 2008 Regional Haze SIP, but Louisiana relied on CAIR better than BART coverage for these sources when they adopted their 2008 SIP. Therefore, we have evaluated these two sources based on available information to determine whether they are subject to BART. We are not relying on the 1000 tpy/100 km model plant approach but are instead relying on existing modeling included in the 2008 Louisiana Regional Haze SIP as being a representative plant analysis for the purpose of establishing emission levels and distances to exempt BART-eligible sources. Specifically, the 2008 Louisiana Regional Haze SIP included review of CALPUFF modeling of a source owner, Valero, which demonstrated that Valero’s BART-eligible sources do not cause or contribute to visibility impairment at the nearby Class I area, Breton National Wildlife Refuge (Breton). The Valero plant is representative (similar stack height and parameters) of the Houma and Plaquemine sources and can therefore be relied on in a model plant analysis to demonstrate that, based on baseline emissions and distance to the Class I area, the Houma and Plaquemine sources are not anticipated to cause or contribute to visibility impairment at Breton and are therefore not subject to BART.<sup>29</sup> We analyzed the ratio of visibility impairing pollutants, denoted as ‘Q’ (NO<sub>x</sub>, SO<sub>2</sub>, and PM-10 in tons/year)<sup>30</sup> to the distance, denoted as ‘D’ (distance of source to Breton in km). For example, if two sources were similar but one has a lower Q/D value, the lower ratio value (either due to lower emissions and/or greater distance) would be expected to have smaller visibility impacts at Breton. The Q/D ratio for Houma and Plaquemine are significantly lower compared to Valero’s ratio (See Table 3). The Q/D ratios of Houma are approximately 20% of Valero’s, and Plaquemine’s ratio is less than 10% of Valero’s Q/D ratio, and modeled impacts of the Valero source were less than the 0.5 dv threshold.

<sup>19</sup> See 40 CFR part 51, Appendix Y, III, How to Identify Sources “Subject to BART”.

<sup>20</sup> *Id.*

<sup>21</sup> See 40 CFR part 51, Appendix Y, III, How to Identify Sources “Subject to BART”.

<sup>22</sup> As we note in the Regional Haze Rule (64 FR 35725, July 1, 1999), the “deciview” or “dv” is an atmospheric haze index that expresses changes in visibility. This visibility metric expresses uniform changes in haziness in terms of common increments across the entire range of visibility conditions, from pristine to extremely hazy conditions.

<sup>23</sup> 70 FR 39104, 39120 (July 6, 2005), [40 CFR part 51, Appendix Y].

<sup>24</sup> See, 77 FR 11839, 11849 (February 28, 2012).

<sup>25</sup> CALPUFF Analysis in Support of the June 2005 Changes to the Regional Haze Rule, U.S. Environmental Protection Agency, June 15, 2005, Docket No. OAR-2002-0076.

<sup>26</sup> 70 FR 39119 (July 6, 2005).

<sup>27</sup> 70 FR 39163 (July 6, 2005).

<sup>28</sup> See Appendix E of the 2008 Louisiana RH SIP contained in the docket for the rulemaking at: 77 FR 11839, 11848.

<sup>29</sup> See 40 CFR part 51 Appendix Y.

<sup>30</sup> To calculate Q, the maximum 24-hr emissions for NO<sub>x</sub>, SO<sub>2</sub> and PM from the 2000–2004 baseline were identified for each BART-eligible unit at a source (See Table 9.3 of the 2008 Louisiana RH SIP). Emissions are not paired in time (*i.e.* max 24-hour NO<sub>x</sub> emissions value would not usually be on the same day as max 24-hour SO<sub>2</sub> emissions). The sum of these daily max NO<sub>x</sub>, PM and SO<sub>2</sub> emissions were summed and then multiplied by 365 days.

Therefore, the data demonstrates that visibility impacts from the BART-eligible units at Houma and Plaquemine are reasonably anticipated to be less than the modeled impacts from Valero and less than the 0.5 dv threshold to screen out. See the CALPUFF Modeling TSD for additional discussion of the model plant analysis.

We also note that on December 11, 2015, the Lafayette Utilities System Louis “Doc” Bonin Generating Station advised our Clean Air Markets Division that: Unit 1 last operated on June 22, 2011, and was put into cold storage on June 1, 2013; Unit 2 last operated on July 5, 2013, and was put into cold storage on June 29, 2014; and Unit 3 last operated on August 27, 2013, and was put into cold storage on June 24, 2014. The Midcontinent Independent System

Operator (MISO) is currently conducting a study to predict the future use of these unit(s) for peaking purposes. If it is determined that these units are no longer necessary to facilitate electrical power generation, they will be retired.<sup>31</sup> However, at this time Lafayette Utilities System has not yet submitted a request to rescind the permit for the Louis “Doc” Bonin Electric Generating Station. Because placing the units in cold storage is not a permanent and enforceable closure under the Regional Haze requirements, we included Louis “Doc” Bonin in our model plant analysis. The Q/D ratio for Louis “Doc” Bonin is significantly lower compared to Valero’s Q/D ratio (See Table 3). The ratio is less than 40% of Valero’s ratio and modeled impacts of the Valero source were less than the 0.5 dv

threshold, which demonstrates that visibility impairment from the BART-eligible units at Louis “Doc” Bonin are reasonably anticipated to be less than the modeled impacts from Valero and below the 0.5 dv threshold to screen out. The model plant analysis demonstrates that, based on baseline emissions, the source is not anticipated to cause or contribute to visibility impairment of any Class I area, and is therefore not subject to BART. See the CALPUFF Modeling TSD for additional discussion of the model plant analysis. Because the modeling results demonstrate that Louis “Doc” Bonin is not subject to BART, we propose to approve this portion of the 2017 Louisiana Regional Haze SIP.

TABLE 3—MODEL PLANT Q/D RATIOS

Facility	NO <sub>x</sub> (TPY)	SO <sub>x</sub> (TPY)	PM (TPY)	Facility emissions (TPY)	Distance to Breton (km)	Q/D (TPY/km)	Max percentile Delta DV
Terrebonne Parish Consolidated Government Houma Generating Station .....	909.8	3.65	7.3	930.75	165	5.64	
Louisiana Energy and Power Authority Plaquemine Steam Plant .....	492.75	0	0	492.75	227.1	2.17	
Lafayette Utilities System Louis “Doc” Bonin Electric Generating Station .....	2993	7.3	109.5	3109.8	298.9	10.04	
Valero .....	1876	1091	401.5	3368.5	139.3	24.18	0.484

Based on the results of this analysis, we propose that the BART-eligible sources identified in Table 4 are not

reasonably anticipated to cause or contribute to the visibility impairment

at a Class I area and are not subject to BART.

TABLE 4—SOURCES SCREENED OUT USING MODEL PLANT ANALYSIS

Facility Name	Units	Parish
Louisiana Energy and Power Authority Plaquemine Steam Plant .....	Boilers 1 and 2 .....	Iberville.
Lafayette Utilities System Louis “Doc” Bonin Electric Generating Station .....	Units 1, 2, and 3 .....	Lafayette.
Terrebonne Parish Consolidated Government Houma Generating Station .....	Units 15 and 16 .....	Terrebonne.

3. CALPUFF Modeling To Screen Out Sources

Some sources were modeled directly with CALPUFF to determine whether the BART-eligible source causes or contributes to visibility impairment in nearby Class I areas. The maximum 98th percentile impact from the modeled years (calculated based on annual average natural background conditions) was compared with the 0.5 dv screening threshold following the modeling protocol described in the CALPUFF Modeling TSD. The BART Guidelines recommend that states use the 24-hour average actual emission rate from the highest emitting day of the meteorological period modeled, unless

this rate reflects periods of start-up, shutdown, or malfunction. The maximum 24-hour emission rate (lb/hr) for NO<sub>x</sub> and SO<sub>2</sub> from the initial baseline period (with the noted difference for Big Cajun II discussed below) for each source was identified through a review of the daily emission data for each BART-eligible unit from EPA’s Air Markets Program Data.<sup>32</sup> See the CALPUFF Modeling TSD for additional discussion and model results for this portion of the screening analysis.

As previously discussed, LDEQ submitted its initial Regional Haze SIP in 2008 and relied on CAIR as a substitute for BART for SO<sub>2</sub> and NO<sub>x</sub> for

all of its BART-eligible EGUs. Due to reliance on CAIR, that SIP submittal did not include a determination of which BART-eligible EGUs were subject to BART. EPA’s limited disapproval of Louisiana’s Regional Haze SIP due to the State’s reliance on CAIR revived Louisiana’s obligation to provide a SIP to fully address EGU BART.<sup>33</sup> While Louisiana’s 2017 Regional Haze SIP revision relies on CSAPR for EGU BART for NO<sub>x</sub>, it does not provide an alternative to source-by-source EGU BART for SO<sub>2</sub> and PM. Therefore, Louisiana’s 2017 Regional Haze SIP revision included modeling of the impacts of the 24-hour maximum emission rate during the 2000–2004

<sup>31</sup> See Appendix E of the 2017 Louisiana Regional Haze SIP.

<sup>32</sup> <http://ampd.epa.gov/ampd/>.

<sup>33</sup> 77 FR 33642 (June 7, 2012).

baseline period (with the noted exception of Big Cajun II discussed below) of all visibility-impairing pollutants from all BART-eligible units at the facility. BART-eligible sources with visibility impacts above the 0.5 dv threshold are subject to BART.

The Big Cajun II Power Plant is a coal-fired power station owned and operated by Louisiana Generating, LLC, (a subsidiary of NRG Energy). In our prior action on the 2008 Regional Haze SIP submittal, we approved Louisiana's determination that Big Cajun II has two BART-eligible units, Unit 1 and Unit 2.<sup>34</sup> Unit 1 is a coal-fired unit, and Unit 2 was formerly a coal-fired unit but is now a gas-fired unit. The LDEQ's screening modeling for Big Cajun II accounted for current operating conditions at the facility. The modeling analysis was conducted using the current enforceable short term emission limits from the facility that reflect controls installed after the 2008 Regional Haze SIP submittal.

On March 6, 2013, Louisiana Generating entered a consent decree (CD) with EPA, the LDEQ, and others to resolve a complaint filed against Louisiana Generating for several

violations of the CAA at Big Cajun II. *U.S. et al v. Louisiana Generating, LLC*, Civil Action No. 09-100-JJB-RLB (M.D. La.). Among other things, the CD requires Louisiana Generating to refuel Big Cajun II Unit 2 to natural gas, and install and continuously operate dry sorbent injection (DSI) at Big Cajun II Unit 1 while maintaining a 30-day rolling average SO<sub>2</sub> emission rate of no greater than 0.380 lb/MMBtu by no later than April 15, 2015.<sup>35</sup> Prior to the submittal of the 2017 Regional Haze SIP, the LDEQ and Louisiana Generating entered into an Agreed Order on Consent (AOC) that made these existing control requirements and maximum daily emission limits permanent and enforceable for BART. The AOC is included in Louisiana's 2017 SIP revision. Thus, if the EPA finalizes its proposed approval of this portion of the SIP submittal, the control requirements and emission limits will become permanent and federally enforceable for purposes of regional haze. As these controls were not installed to meet BART requirements, and existing enforceable emission limits for Units 1 and 2 prevent the source from emitting at levels seen during the 2000-2004

baseline, LDEQ's screening modeling in the 2017 Regional Haze SIP submittal utilizes the current daily emission limits for these units in the AOC as representative of the anticipated 24-hr maximum emissions for screening modeling purposes. LDEQ's modeling demonstrates that, based on these existing controls and enforceable emission limits, Big Cajun II contributes less than 0.5 dv at all impacted Class I areas, and therefore the facility is not subject to BART.

It should be noted that in addition to requiring DSI, the applicable enforcement CD requires Louisiana Generating to retire, refuel, repower, or retrofit Big Cajun II Unit 1 by no later than April 1, 2025. Louisiana Generating must notify us of which option it will select to comply with this condition no later than December 31, 2022, and any option taken would produce significantly fewer emissions.<sup>36</sup>

With the use of CALPUFF modeling results, Louisiana concluded, and we are proposing to agree, that the facilities listed in Table 5 have visibility impacts of less than 0.5 dv,<sup>37</sup> and therefore, are not subject to BART:

TABLE 5—SOURCES WITH VISIBILITY IMPACT OF LESS THAN 0.5 dv

Facility name	Units	Parish
Cleco Teche .....	Unit 3 .....	St. Mary.
Entergy Sterlington .....	Unit 7 .....	Ouachita.
Louisiana Generating (NRG) Big Cajun I .....	Units 1 and 2 .....	Point Coupee.
Louisiana Generating (NRG) Big Cajun II .....	Units 1 and 2 .....	Pointe Coupee.

*E. Subject to BART Sources*

With the use of CALPUFF modeling results as discussed above, Louisiana concluded, and we are proposing to

agree, that the facilities listed in Table 6 have visibility impacts greater than 0.5 dv. These facilities are therefore subject to BART and must undergo a five-factor

analysis. See the CALPUFF Modeling TSD for our review of CALPUFF modeling in the 2017 Louisiana Regional Haze SIP.

TABLE 6—SUBJECT TO BART SOURCES ADDRESSED IN THIS PROPOSAL

Facility name	Units	Parish
Cleco Rodemacher/Brame .....	Nesbitt I (Unit 1), Rodemacher II (Unit 2).	Rapides.
Entergy Waterford .....	Units 1, 2, and auxiliary boiler .....	St. Charles.
Entergy Willow Glen .....	Units 2, 3, 4, 5, and auxiliary boiler .....	Iberville.
Entergy Ninemile Point .....	Units 4 and 5 .....	Jefferson.
Entergy Little Gypsy .....	Units 2, 3, and auxiliary boiler .....	St. Charles.

We note that in addition to the CALPUFF modeling included in the 2017 Louisiana Regional Haze SIP

submittal, the results of CAMx modeling performed by Trinity consultants was included in the submittal as additional

screening analyses<sup>38</sup> that purport to demonstrate that the baseline visibility impacts from Cleco Brame and a

<sup>34</sup> See TSD Table 6 in the Rulemaking Docket numbered EPA-R06-OAR-2008-0510.

<sup>35</sup> CD paragraph 62 in the docket for this rulemaking.

<sup>36</sup> CD paragraph 63 in the docket for this rulemaking.

<sup>37</sup> In our previous action on Louisiana Regional Haze, we approved Louisiana's selection of 0.5 dv as the threshold for screening out BART-eligible sources. See 77 FR 11839, 11848.

<sup>38</sup> See October 10, 2016 Letter from Cleco Corporation to Vivian Aucoin and Vennetta Hayes, LDEQ, RE: Cleco Corporation Louisiana BART

CAMx Modeling, included in Appendix B of the 2017 Louisiana Regional Haze SIP submittal; CAMx Modeling Report, prepared for Entergy Services by Trinity Consultants, Inc. and All 4 Inc, October 14, 2016, included in Appendix D of the 2017 Louisiana Regional Haze SIP submittal.

number of the Entergy sources<sup>39</sup> are significantly less than the 0.5 dv threshold established by Louisiana. However, this modeling was not conducted in accordance with the BART Guidelines and a previous modeling protocol developed for the use of CAMx modeling for BART screening (EPA, Texas and FLM representatives approved),<sup>40,41</sup> and does not properly assess the maximum baseline impacts. Therefore, we agree with LDEQ's decision to not rely on this CAMx modeling, but rather rely on the CALPUFF modeling for BART determinations.<sup>42</sup> We provide a detailed discussion of our review of this CAMx modeling in the CAMx Modeling TSD. We also note that for the largest emission sources, those with coal-fired units, we performed our own CAMx modeling following the BART Guidelines and consistent with previously agreed techniques and metrics of the Texas CAMx BART screening protocol to provide additional information on visibility impacts and impairment and address possible concerns with utilizing CALPUFF to assess visibility impacts at Class I areas located farther from the emission sources. See the CAMx Modeling TSD for additional information on EPA's CAMx modeling protocol, inputs, and model results.

### 1. Reliance on CSAPR To Satisfy NO<sub>x</sub> BART

Louisiana's 2017 Regional Haze SIP submittal relies on CSAPR better than BART for NO<sub>x</sub> for EGUs. We propose to find that the NO<sub>x</sub> BART requirements for EGUs in Louisiana will be satisfied

<sup>39</sup> Entergy's CAMx modeling included model results for Michoud, Little Gypsy, R.S. Nelson, Ninemile Point, Willow Glen, and Waterford.

<sup>40</sup> Texas had over 120 BART-eligible facilities located at a wide range of distances to the nearest class I areas in their original Regional Haze SIP. Due to the distances between sources and Class I areas and the number of sources, Texas worked with EPA and FLM representatives to develop a modeling protocol to conduct BART screening of sources using CAMx photochemical modeling. Texas was the only state that screened sources using CAMx and had a protocol developed for how the modeling was to be performed and what metrics had to be evaluated for determining if a source screened out. See Guidance for the Application of the CAMx Hybrid Photochemical Grid Model to Assess Visibility Impacts of Texas BART Sources at Class I Areas, ENVIRON International, December 13, 2007, available in the docket for this action.

<sup>41</sup> EPA, the Texas Commission on Environmental Quality (TCEQ), and FLM representatives verbally approved the approach in 2006 and in email exchange with TCEQ representatives in February 2007 (see email from Erik Snyder (EPA) to Greg Nudd of TCEQ Feb. 13, 2007 and response email from Greg Nudd to Erik Snyder Feb. 15, 2007, available in the docket for this action).

<sup>42</sup> See Response to Comments in Appendix A of the 2017 Louisiana Regional Haze SIP submittal.

by our determination, proposed for separate finalization, that Louisiana's participation in CSAPR's ozone-season NO<sub>x</sub> program is a permissible alternative to source-specific NO<sub>x</sub> BART. We cannot finalize this portion of the proposed SIP approval unless and until we finalize the proposed finding that CSAPR continues to be better than BART<sup>43</sup> because finalization of that proposal provides the basis for Louisiana to rely on CSAPR participation as an alternative to source-specific EGU BART for NO<sub>x</sub>.

### 2. Sources That Deferred a Five-Factor Analysis Due to a Change in Operation

Entergy operates five BART-eligible units at the Willow Glen Electric Generating Plant (Willow Glen) in Iberville Parish, Louisiana, all of which burn natural gas. Unit 2 is an EGU boiler with a maximum heat input capacity of 2,188 MMBtu/hr. Unit 3 is an EGU boiler with a maximum heat input capacity of 5,900 MMBtu/hr. Unit 4 is an EGU boiler with a maximum heat input capacity of 5,400 MMBtu/hr. Unit 5 is an EGU boiler with a maximum heat input capacity of 5,544 MMBtu/hr. Unit 3 also has an auxiliary boiler with a maximum heat input capacity of 206 MMBtu/hr, which is itself BART-eligible. All of these units are also permitted to burn fuel oil, but none has done so in several years. Entergy has no operational plans to burn oil at these units in the future. Entergy's analysis, included in the 2017 Louisiana Regional Haze SIP Appendix D, addresses BART for the natural-gas-firing scenario and does not consider emissions from fuel-oil firing. Entergy's analysis states that if conditions change such that it becomes economic to burn fuel oil, the facility will submit a five-factor BART analysis for the fuel-oil firing scenario to Louisiana to be submitted to us as a SIP revision. Until such a SIP revision is approved, the 2017 Louisiana Regional Haze SIP precludes fuel-oil combustion at the Willow Glen facility. To make the prohibition on fuel-oil usage at Willow Glen enforceable, Entergy and LDEQ entered an AOC, included in the SIP that establishes the following requirement:

Before fuel oil firing is allowed to take place at Units 2, 3, 4, 5, and the auxiliary boiler at the Facility, a revised BART determination must be promulgated for SO<sub>2</sub> and PM for the fuel oil firing scenario through a FIP or an action by the LDEQ as a SIP revision and approved by EPA such

that the action will become federally enforceable.<sup>44</sup>

With our final approval of this portion of the SIP submittal, the conditions in the AOC will become federally enforceable for purposes of regional haze. We propose to find that this approach is adequate to address BART.<sup>45</sup>

With regard to BART requirements for the gas-firing scenario, SO<sub>2</sub> and PM emissions for the gas-only fired units that are subject to BART are inherently low,<sup>46</sup> and are so minimal that the installation of any additional PM or SO<sub>2</sub> controls on these units would likely achieve very small emissions reductions and have minimal visibility benefits. As there are no appropriate add-on controls and the status quo reflects the most stringent controls, we propose to agree with Louisiana that SO<sub>2</sub> and PM BART is no additional controls for the Willow Glen units when burning natural gas.

### 3. Louisiana's Five-Factor Analyses for SO<sub>2</sub> and PM BART

In determining BART, the state must consider the five statutory factors in section 169A of the CAA: (1) The costs of compliance; (2) the energy and non-air quality environmental impacts of compliance; (3) any existing pollution control technology in use at the source; (4) the remaining useful life of the source; and (5) the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology. See also 40 CFR 51.308(e)(1)(ii)(A). All units that are subject to BART must undergo a BART analysis. The BART Guidelines break the analysis down into five steps:<sup>47</sup>

STEP 1—Identify All Available Retrofit Control Technologies,

STEP 2—Eliminate Technically Infeasible Options,

STEP 3—Evaluate Control Effectiveness of Remaining Control Technologies,

STEP 4—Evaluate Impacts and Document the Results, and

<sup>44</sup> See AOC in Appendix D of the 2017 Louisiana Regional Haze SIP submittal.

<sup>45</sup> Under the AOC, if any of the five units at Willow Glen decides to burn fuel oil, Entergy will complete a BART analysis for each pollutant for the fuel oil firing scenario and submit the analysis to the State. Upon receiving Entergy's submission indicating that the units intend to switch to fuel oil, the State will submit a SIP revision with BART determinations for the fuel oil firing scenario for the units intending to switch to fuel oil. The sources will not begin to burn fuel oil until we have approved the submitted SIP revision containing the BART determinations.

<sup>46</sup> AP 42, Fifth Edition, Volume 1, Chapter 1: External Sources, Section 1.4, Natural Gas Combustion, available here: <https://www3.epa.gov/ttn/chieff/ap42/ch01/final/c01s04.pdf>.

<sup>47</sup> 70 FR 39103, 39164 (July 6, 2005) [40 CFR 51, App. Y].



## STEP 5—Evaluate Visibility Impacts.

As mentioned previously, we disapproved portions of Louisiana's 2008 Regional Haze SIP due to the state's reliance on CAIR as an alternative to source-by-source BART for EGUs.<sup>48</sup> Following our limited disapproval, LDEQ worked closely with the BART-eligible facilities and with us to revise its Regional Haze SIP, which resulted in the submittal of its 2017 Regional Haze SIP. The 2017 SIP submittal includes, among other things, a five-factor BART analysis for each subject to BART source for PM and SO<sub>2</sub>. Louisiana's 2017 Regional Haze SIP relies on CSAPR participation as an alternative to source-specific EGU BART for NO<sub>x</sub>. In evaluating the State's 2017 SIP revision, we reviewed each BART analysis for SO<sub>2</sub> and PM for each subject to BART source and other relevant information provided in the 2017 Regional Haze SIP submittal.

## a. Cleco Brame Energy Center

The Cleco Brame Energy Center includes two units that are subject to BART. Nesbitt 1 (Brame Unit 1) is a 440-megawatt (MW) EGU boiler that burns natural gas and is not equipped with any air pollution controls. Rodemacher 2 (Brame Unit 2) is a 523 MW wall-fired EGU boiler that burns Powder River Basin (PRB) coal. Cleco submitted a BART screening analysis to us and LDEQ on August 31, 2015, and a BART five-factor analysis dated October 31, 2015, revised April 14, 2016 and April 18, 2016 in response to an information request.<sup>49</sup> These analyses were adopted and incorporated into Louisiana's 2017 Regional Haze SIP (Appendix B).

## Nesbitt 1

Nesbitt 1 is currently permitted to burn natural gas and oil. However, this unit has not burned oil in the recent past. LDEQ did not conduct a five-factor BART analysis for Nesbitt 1, concluding that "SO<sub>2</sub> BART controls are satisfied through the conversion to natural gas."<sup>50</sup> The preamble to the BART Guidelines states:<sup>51</sup>

Consistent with the CAA and the implementing regulations, States can adopt a more streamlined approach to making BART determinations where appropriate. Although BART determinations are based on the totality of circumstances in a given situation, such as the distance of the source from a Class I area, the type and amount of pollutant

at issue, and the availability and cost of controls, it is clear that in some situations, one or more factors will clearly suggest an outcome. Thus, for example, a State need not undertake an exhaustive analysis of a source's impact on visibility resulting from relatively minor emissions of a pollutant where it is clear that controls would be costly and any improvements in visibility resulting from reductions in emissions of that pollutant would be negligible. In a scenario, for example, where a source emits thousands of tons of SO<sub>2</sub> but less than one hundred tons of NO<sub>x</sub>, the State could easily conclude that requiring expensive controls to reduce NO<sub>x</sub> would not be appropriate.

SO<sub>2</sub> and PM emissions from gas-fired units are inherently low,<sup>52</sup> so the installation of any additional PM or SO<sub>2</sub> controls on this unit would likely achieve very small emissions reductions and have minimal visibility benefits.

Before burning fuel oil at this unit, Cleco has committed to submit a five-factor BART analysis for the fuel-oil-firing scenario to Louisiana to be submitted to us as a SIP revision, and fuel oil combustion will not take place until our final approval of that SIP revision. To make the prohibition on fuel-oil usage at this unit enforceable, Cleco and LDEQ entered an AOC that establishes enforceable limits, consistent with the exclusive use of natural gas, of 3.0 lb/hr SO<sub>2</sub> and 37.3 lb/hr PM<sub>10</sub> on 30-day rolling averages and a limitation on Nesbitt 1 analogous to the limitation for Willow Glen discussed previously.<sup>53</sup> This AOC is included in Louisiana's 2017 SIP revision. With our final approval of this portion of the 2017 SIP submittal and the AOC, that limitation will become federally enforceable for purposes of Regional Haze. We propose to find this approach adequate to meet BART.

## Rodemacher 2

As the 2017 Louisiana Regional Haze SIP indicates,<sup>54</sup> recent pollution control upgrades at Rodemacher 2 include:

- Low-NO<sub>x</sub> burners (LNB) installed in 2008;
- Low-sulfur coal combustion starting in 2009;
- Selective non-catalytic reduction (SNCR) installed in 2014; and
- DSI, activated carbon injection (ACI), and a fabric filter baghouse installed in 2015.

In assessing SO<sub>2</sub> BART, Cleco considered the five BART factors we discuss above. In assessing feasible control technologies and their

effectiveness, Cleco considered an enhancement to the existing DSI system, dry scrubbing (spray dry absorption, or SDA), and wet scrubbing (wet flue gas desulfurization, or wet FGD). In considering enhanced DSI, Cleco relied upon on-site testing it had conducted to determine the performance potential of an enhanced DSI system. The testing was conducted to evaluate the effectiveness of the DSI system to control hydrochloric acid for compliance with the Mercury and Air Toxics Standards (MATS), but the continuous emissions monitor system (CEMS) was operating and capturing SO<sub>2</sub> emissions data during the test, which provided the necessary information to determine the control efficiency of DSI and enhanced DSI for SO<sub>2</sub>.<sup>55</sup> As a result of this testing, Cleco determined that the current and enhanced DSI systems have SO<sub>2</sub> removal efficiencies of approximately 39% and 63%, respectively, with the enhanced DSI system being capable of meeting a monthly SO<sub>2</sub> emission limit of 0.30 lbs/MMBtu. Cleco secured this limit as part of the same AOC referenced above for the Nesbitt 1. Cleco also assessed SDA and wet FGD as being capable of meeting emission limits of 0.06 and 0.04 lbs/MMBtu, respectively.

In considering the costs of compliance for these controls, Cleco concluded that the enhanced DSI system would not require any additional capital expenses, but would require additional operating costs due to the need for additional sorbent (trona). Cleco didn't specifically address the energy impacts and non-air quality impacts of enhanced DSI, but we conclude that any considerations regarding these factors would be very minimal over the already installed DSI system. Cleco also assessed the costs associated with installing and operating SDA and wet FGD, as discussed below. In regards to energy impacts and non-air quality impacts, Cleco concluded that wet FGD poses certain water and waste disposal problems over SDA. Cleco concluded that remaining useful life was not an important factor for any of the control scenarios.

In assessing visibility impacts, the state's submittal included CALPUFF modeling evaluating the visibility benefits of DSI, enhanced DSI, SDA, and wet FGD. We summarize the results of that modeling in Table 7.

<sup>48</sup> 77 FR 33642.

<sup>49</sup> Wren Stenger, Section 114(a) Information Request letter to Darren Olagues (Cleco), May 19, 2015.

<sup>50</sup> See Cleco BART Analysis in Appendix B of the 2017 Louisiana Regional Haze SIP.

<sup>51</sup> 70 FR 39116.

<sup>52</sup> AP 42, Fifth Edition, Volume 1, Chapter 1: External Sources, Section 1.4, Natural Gas Combustion, available here: <https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf>.

<sup>53</sup> See AOC in Appendix B of the 2017 Louisiana Regional Haze SIP.

<sup>54</sup> See BART Analysis in Appendix B of the 2017 Louisiana Regional Haze SIP.

<sup>55</sup> See the April 5, 2016 letter to Guy Donaldson from Bill Matthews in our docket.

<sup>56</sup> DSI modeled at 0.41 lb/MMBtu, DSI and fabric filter are already installed and operational.

TABLE 7—ANTICIPATED VISIBILITY BENEFIT DUE TO CONTROLS ON CLECO RODEMACHER UNIT 2  
[CALPUFF, 98th percentile]

Class I area	Baseline impact (dv)	Visibility benefit of controls over baseline (dv)			
		DSI <sup>56</sup>	Enhanced DSI	SDA	WFGD
Breton .....	0.724	0.134	0.226	0.436	0.445
Caney Creek .....	0.734	0.085	0.122	0.311	0.322

Enhanced DSI achieves benefits of approximately 0.092 dv at Breton and 0.037 dv at Caney Creek Wilderness (Caney Creek) over DSI and benefits of 0.226 dv at Breton and 0.122 dv at Caney Creek over the baseline impairment. The visibility benefits of SDA and wet FGD exceed the benefits from enhanced DSI by approximately 0.2 dv at Caney Creek and Breton.

We also performed our own CAMx modeling analysis for Cleco Rodemacher Unit 2 following the BART Guidelines to evaluate the maximum

baseline visibility impacts and potential benefits from two levels of controls, DSI at 0.41 lb/MMBtu and wet FGD at 0.04 lb/MMBtu, to supplement the CALPUFF modeling. As discussed above, Louisiana relied on CALPUFF modeling to inform BART determinations consistent with the BART Guidelines. However, the use of CALPUFF is typically used for distances less than 300–400 km. The Cleco Brame source is located 352 km from Caney Creek and 422 km from Breton. CAMx provides a

scientifically validated platform for assessment of visibility impacts over a wide range of source-to-receptor distances. CAMx is also more suited than some other modeling approaches for evaluating the impacts of SO<sub>2</sub>, NO<sub>x</sub>, VOC, and PM emissions as it has a more robust chemistry mechanism than CALPUFF. Our CAMx Modeling TSD provides a detailed description of the modeling protocol, model inputs, and model results, the latter of which is summarized in Table 8.

TABLE 8—ANTICIPATED VISIBILITY BENEFIT DUE TO CONTROLS ON CLECO RODEMACHER UNIT 2  
[CAMx]

Class I area	Baseline impact (dv) (maximum)	Baseline impact (dv) (average top ten impacted days)	Visibility benefit of controls over baseline (dv) maximum impact		Visibility benefit of controls over baseline (dv) average top ten impacted days	
			DSI <sup>57</sup>	WFGD	DSI <sup>58</sup>	WFGD
Caney Creek .....	2.051	1.005	0.119	0.238	0.271	0.459

The CAMx-modeled visibility benefits of WFGD are 0.212 dv at Breton and 0.119 dv at Caney Creek over those from DSI for the most impacted day. Examining the top ten impacted days during the baseline period, the average benefit on this set of days of WFGD over DSI is 0.154 dv at Breton and 0.188 dv at Caney Creek. As enhanced DSI would reduce SO<sub>2</sub> emissions from an emission rate of 0.41 lb/MMBtu to 0.3 lb/MMBtu, enhanced DSI would lead to greater visibility benefits than DSI. Thus, the visibility benefits of WFGD compared to enhanced DSI would be smaller than those discussed above.

As explained in our TSD, we identified some uncertainties with Cleco's BART analysis for Rodemacher 2. These include a lack of documentation for cost figures, and the fact that the DSI testing that Cleco relied on was not intended to evaluate DSI for SO<sub>2</sub> control efficiency, which caused

some uncertainty concerning the potential control level of DSI and enhanced DSI. However, because DSI and a fabric filter baghouse are already installed and operational, the cost-effectiveness of Cleco's enhanced DSI is based only on the cost of the additional reagent and no additional capital costs are involved. Consequently, we believe that the uncertainty of Cleco's enhanced DSI cost-effectiveness figures is low and that Cleco's estimated cost-effectiveness of \$967/ton<sup>59</sup> is reasonable. Conversely, we believe that significant uncertainty exists with respect to Cleco's cost-effectiveness estimates for SDA and wet FGD—\$8,589/ton and \$5,580/ton, respectively. Based on our experience reviewing and conducting control cost analyses for many other facilities, we believe that Cleco's estimates are likely too high.

Nevertheless, even though the actual costs of SDA and wet FGD are likely

lower, enhanced DSI is more cost-effective and the incremental costs of obtaining the additional 0.1–0.2 dv of visibility improvement that can be achieved by SDA or wet FGD are likely to be high. Therefore, we propose to agree with Louisiana's determination that enhanced DSI is SO<sub>2</sub> BART for Rodemacher 2, with a SO<sub>2</sub> emission limit of 0.30 lbs/MMBtu on a 30-day rolling basis. LDEQ and Cleco entered into an AOC to make this limit enforceable.

In assessing PM BART, Cleco notes that Rodemacher 2 is equipped with an electrostatic precipitator (ESP) and a fabric filter baghouse, which offer excellent PM control, and concludes that PM BART is no further control. As discussed earlier, the BART rules allow for a more streamlined approach to making BART determinations when appropriate.<sup>60</sup> The BART Guidelines further state that if a BART source

<sup>57</sup> DSI modeled at 0.41 lb/MMBtu, DSI and fabric filter are already installed and operational.

<sup>58</sup> DSI modeled at 0.41 lb/MMBtu, DSI and fabric filter are already installed and operational.

already has controls that are among the most stringent available and the controls are made federally enforceable for BART, the remainder of the BART analysis is unnecessary.<sup>61</sup> The existing ESP combined with the baghouse meets the definition of “among the most stringent controls” for PM at this unit and are made federally enforceable for BART through the AOC. The AOC allows the unit to meet the emissions limits by use of the ESP and the baghouse, conversion to natural gas only, unit retirement, or another means of achieving compliance.

In addition, CALPUFF visibility modeling shows that baseline impairment due to PM is very small, at 0.01 dv or less at both Breton and Caney Creek compared to the overall visibility impairment from all pollutants of approximately 0.6 dv.<sup>62</sup> Our CAMx modeling estimates that baseline visibility impairment due to PM emissions from the unit is less than 1% of the total visibility impairment due to the unit, at both Caney Creek and Breton.<sup>63</sup> We propose to find that the visibility impacts due to PM emissions are so minimal that any additional PM controls would only result in very minimal visibility benefit that could not justify the cost of any upgrades and/or operational changes needed to achieve a more stringent emission limit. We therefore propose to agree with Louisiana that no additional controls are required to satisfy PM BART. LDEQ and Cleco entered into an AOC establishing an enforceable limit on PM<sub>10</sub> consistent with current controls at 545 lb/hr on a 30-day rolling basis.

#### b. Entergy Little Gypsy

Entergy operates three BART-eligible units at Little Gypsy Generating Plant (Little Gypsy). Unit 2 is an EGU boiler with a maximum heat input capacity of 4,550 MMBtu/hr that is permitted to burn natural gas as its primary fuel, and No. 2 and No. 4 fuel oil as secondary fuels. Unit 3 is an EGU boiler with a maximum heat input capacity of 5,578 MMBtu/hr that burns natural gas, but is also permitted to burn fuel oil. The auxiliary boiler for Unit 3 has a maximum heat input capacity of 252 MMBtu/hr and is permitted to burn only natural gas. According to November 9, 2015 updated CALPUFF screening modeling conducted by Trinity

Consultants on behalf of Entergy,<sup>64</sup> the baseline visibility impacts of Little Gypsy are greater than 0.5 dv, so the 2017 SIP revision demonstrates that the three units at Little Gypsy are subject to BART.<sup>65</sup>

LDEQ and Entergy entered into an AOC limiting fuel oil to ultra-low sulfur diesel (ULSD) with a sulfur content of 0.0015% for both Units 2 and 3. As the BART Guidelines state, “if a source commits to a BART determination that consists of the most stringent controls available, then there is no need to complete the remaining analyses.”<sup>66</sup> Entergy states that during the baseline period, Units 2 and 3 burned fuel oil<sup>67</sup> with an average sulfur content of 0.5%. Switching to ULSD will result in a reduction of SO<sub>2</sub> emissions of over 99%. We propose to find that ULSD is the most stringent control available for addressing SO<sub>2</sub> emissions from fuel oil burning, and we propose to agree with LDEQ that this satisfies BART for SO<sub>2</sub> for Little Gypsy Unit 2.

The 2017 Louisiana Regional Haze SIP narrative does not include a BART determination for the auxiliary boiler, but the BART analysis in Appendix D of the SIP submittal does address the auxiliary boiler and concludes that no additional controls are necessary for BART. The auxiliary boiler is permitted to only burn natural gas. We note that SO<sub>2</sub> and PM emissions for gas-fired units are inherently low<sup>68</sup> and so minimal that the installation of any additional PM or SO<sub>2</sub> controls on such units would likely achieve very low emissions reductions and minimal visibility benefits. As there are no appropriate add-on controls and the status quo reflects the most stringent controls, we propose to agree with LDEQ that SO<sub>2</sub> and PM BART is no additional controls for the Little Gypsy auxiliary boiler. For the same reason, we propose to approve LDEQ’s conclusion that PM BART for Little Gypsy Units 2 and 3 during gas-firing operation is no additional controls.

With regards to PM BART for the fuel-oil-firing scenarios at Units 2 and 3, Louisiana evaluated wet ESP, wet scrubber, cyclone, and switching fuels to 0.0015% S fuel oil (ULSD). In evaluating energy and non-air quality

impacts, the BART analysis identifies energy impacts associated with energy usage for ESPs and scrubbers. In addition, ESPs and scrubbers generate wastewater streams and the resulting wastewater treatment will generate filter cake, requiring land-filling. LDEQ did not identify any impacts regarding remaining useful life. The costs of compliance for these add-on control options are very high compared to their anticipated visibility benefits.<sup>69</sup> The modeled visibility benefits of add-on controls are very small and range from 0.0 dv to 0.037 dv for cyclone, wet scrubber, and wet ESP. Therefore, we propose that the costs of add-on PM controls do not justify the expected improvement in visibility. Accordingly, we are proposing to agree with Louisiana that the fuel sulfur content limits contained in the AOC that were determined to meet SO<sub>2</sub> BART also satisfy PM BART.

#### c. Entergy Ninemile Point

Entergy operates two BART-eligible units at Ninemile Point Electric Generating Plant (Ninemile Point). Unit 4 is an EGU boiler with a maximum heat input capacity of 7,146 MMBtu/hr that burns primarily natural gas and No. 2 and No. 4 fuel oil. Unit 5 is an EGU boiler with a maximum heat input capacity of 7,152 MMBtu/hr that burns primarily natural gas and No. 2 and No. 4 fuel oil. LDEQ’s SIP submittal demonstrates that the two units at Ninemile Point are subject to BART. LDEQ and Entergy entered into an AOC limiting fuel oil to ULSD with a sulfur content of 0.0015%. As the BART Guidelines state “if a source commits to a BART determination that consists of the most stringent controls available, then there is no need to complete the remaining analyses.”<sup>70</sup> Entergy states that during the baseline period these units burned fuel oil with an average sulfur content of 0.3%. Switching to ULSD will result in a reduction of SO<sub>2</sub> emissions by over 99%. We propose to find that ULSD is the most stringent control available for addressing SO<sub>2</sub> emissions and we propose to agree with LDEQ that this satisfies BART for SO<sub>2</sub> for Ninemile Point Units 4 and 5.

For PM BART for Units 4 and 5, Louisiana evaluated wet ESP, wet scrubber, cyclones, and switching fuels to ULSD. In evaluating energy and non-air quality impacts, the BART analysis identifies energy impacts associated with energy usage for ESPs and scrubbers. In addition, ESPs and

<sup>63</sup> Calculated as percent of total extinction due to the unit. See CAMx Modeling TSD for additional information.

<sup>64</sup> See Appendix D of the 2017 SIP submittal.

<sup>65</sup> See CALPUFF Modeling TSD for a summary of model results.

<sup>66</sup> See 40 CFR part 51, Appendix Y, IV, D.

<sup>67</sup> For this and all units herein assessed for BART, the primary fuel burned has historically been pipeline quality natural gas. Please see the TSD for more details.

<sup>69</sup> See TSD for summary of PM control cost analysis.

<sup>70</sup> See 40 CFR part 51, Appendix Y, IV, D.

<sup>60</sup> 70 FR 39116.

<sup>61</sup> 40 CFR 51 Appendix Y.IV.D.1.9.

<sup>62</sup> See Table 4–3 CLECO Brame Energy Center BART Five-Factor Analysis, prepared by Trinity Consultants, October 31, 2015. Available in Appendix B of the 2017 Regional Haze SIP submittal.

scrubbers generate wastewater streams and the resulting wastewater treatment will generate filter cake, requiring land-filling. LDEQ did not identify any impacts regarding the remaining useful life. The cost of compliance for these add-on control options is very high compared to the anticipated visibility benefits of controls. The modeled visibility benefits of add-on controls are very small and range from 0 dv to 0.08 dv for cyclone, wet scrubber and wet ESP. The BART analyses in the 2017 Louisiana Regional Haze SIP demonstrate that the cost of retrofitting the Units 4 and 5 with add-on PM controls would be extremely high compared to the visibility benefit for any of the units.<sup>71</sup> We believe that the cost of add-on PM controls does not justify the minimal expected improvement in visibility for these units. Accordingly, we are proposing to agree with LDEQ's determination that the fuel content limits for oil burning contained in the AOC that were determined to meet SO<sub>2</sub> BART also satisfy PM BART for Units 4 and 5.

d. Entergy Waterford

Entergy operates three BART-eligible units at the Waterford 1 & 2<sup>72</sup> Generating Plant (Waterford) in St. Charles Parish, Louisiana. Unit 1 is an EGU boiler with a maximum heat input capacity of 4,440 MMBtu/hr that burns primarily natural gas and No. 6 fuel oil as its secondary fuel. Unit 2 is an EGU boiler with a maximum heat input capacity of 4,440 MMBtu/hr that burns primarily natural gas and No. 6 fuel oil as its secondary fuel. The auxiliary boiler (77 MMBtu/hr) burns only natural gas. We propose to approve the determination that Waterford Units 1 and 2, and the auxiliary boiler are subject to BART. In assessing SO<sub>2</sub> BART

for Units 1 and 2, Louisiana considered the five BART factors.

In Step 1, SO<sub>2</sub> control technologies of DSI, SDA, wet scrubbing, and fuel switching were identified as available controls. For gas-fired units that occasionally burn fuel oil, the BART Guidelines recommend: "For oil-fired units, regardless of size, you should evaluate limiting the sulfur content of the fuel oil burned to 1 percent or less by weight."<sup>73</sup> The Waterford units have only burned residual fuel oil (No. 6). Entergy states that these units are only physically capable of burning No. 6 fuel oil when not burning natural gas and evaluated switching to 0.5% sulfur No. 6 fuel oil, the lowest sulfur specification No. 6 fuel oil available.

In Step 2, Louisiana eliminated all controls as technically infeasible with the exception of fuel switching. We are aware, however, of instances, although not at any facility in the U.S., in which FGDs of various types have been installed or otherwise deemed feasible on a boiler that burns oil.<sup>74</sup> Consequently, we have supplemented Louisiana's analysis with our own. We propose from our analysis, that even if the LDEQ included analyses of these other control options, the State's BART conclusion for Waterford would still be reasonable.<sup>75</sup>

In addition, Louisiana evaluated switching from a 1% sulfur fuel oil, which is approximately equal to the maximum sulfur content of the fuel oil these units have burned, to a 0.5% sulfur fuel oil for Units 1 and 2. In addition to the Entergy BART report which Louisiana relied upon, we have included our own fuel oil cost assessment in the TSD.

For Step 3, the technically feasible controls are ranked by control effectiveness. The control effectiveness of switching from a higher sulfur fuel oil to a lower sulfur fuel oil depends on the

reduction in sulfur emissions. Entergy states that these units are only physically capable of burning No. 6 fuel oil when not burning natural gas and evaluated switching to 0.5% sulfur No. 6 fuel oil, the lowest sulfur specification No. 6 fuel oil available. We believe it is likely the units could be modified to burn distillate fuel oils, with even lower sulfur content, at low cost. We welcome the facility owner, Entergy, to provide a cost estimate for the modification to burn distillate fuel oils should it have concerns with this assumption.

Because we believe it likely that the facility could be modified to burn distillate fuels at low cost, in addition to our consideration of 0.5% No. 6 fuel oil, we also considered No. 2 fuel oils with 0.3% sulfur and ultra-low sulfur diesel, which has a sulfur content of 0.0015%.

In evaluating energy and non-air quality impacts, the BART analysis in the 2017 SIP submittal states that there are no such impacts associated with fuel switching. It also states that remaining useful life does not impact the BART analysis. We believe Louisiana's assessment of the impacts from fuel switching are reasonable.

Aside from our conclusion that modifications necessary to burn distillate fuel oil are relatively minor, the cost-effectiveness of fuel oil switching depends only on the cost of the lower sulfur fuel oil relative to the baseline fuel oil. Information from the Energy Information Agency (EIA) indicates that fuel oil of varying sulfur contents is widely available across the U.S. EIA reports the prices for various refinery petroleum products on a monthly and annual basis. See the TSD for additional information on fuel oil prices utilized in our analysis. In Table 9, we present the results of our calculations:<sup>76</sup>

TABLE 9—CONTROL COST ANALYSIS FOR FUEL OIL SWITCHING FROM RESIDUAL FUEL OIL BASELINE

Baseline: Residual Fuel Oil <=1%			
	Cost for 1,000 barrels (\$/yr)	Tons reduced per 1,000 barrels	Cost effectiveness (\$/ton)
Business as usual (Residual fuel oil @1% S and \$0.971/gal)	\$40,782		
Moderate control (No. 2 fuel oil @0.3% S and \$1.565/gal)	65,730	2.40	\$10,385
High control (ULSD @0.0015% S and \$1.667/gal)	70,014	3.29	8,878

<sup>71</sup> See TSD for summary of PM control cost analysis.

<sup>72</sup> Note that the name of this facility is "Waterford 1 & 2" and is also has units that are referred to as "Unit 1" and "Unit 2".

<sup>73</sup> 70 FR 39103, 39171 (July 6, 2005) [40 CFR 51, App. Y].

<sup>74</sup> Crespi, M. "Design of the FLOWPAC WFGD System for the Amager Power Plant." Power-Gen FGD Operating Experience, November 29, 2006,

Orlando, FL; Babcock and Wilcox. "Wet Flue Gas Desulfurization (FGD) Systems Advanced Multi-Pollutant Control Technology." See Page 4: "We have also provided systems for heavy oil and Orimulsion fuels." DePriest, W; Gaikwad, R. "Economics of Lime and Limestone for Control of Sulfur Dioxide." See page 7: "A CFB unit, in Austria, is on a 275 MW size oil-fired boiler burning 1.0–2.0% sulfur oil."

<sup>75</sup> See the TSD for our analysis of these other control options. We believe that the installation of

any of these other add-on control options, such as a scrubber, on any of these gas-fired units that occasionally burn oil results in very high cost-effectiveness values.

<sup>76</sup> See the file, "LA BART Fuel Oil Cost Analysis.xlsx" for the calculations and supporting data for these figures.

In assessing the visibility benefits of fuel switching, Louisiana submitted CALPUFF modeling for 1% sulfur and 0.5% sulfur fuel oil. We performed

additional CALPUFF modeling to correct for errors in the modeling and to evaluate the visibility benefits of additional fuel types. See the CALPUFF

Modeling TSD for additional information on modeling inputs and results. The visibility benefits from fuel switching are summarized in Table 10.

TABLE 10—VISIBILITY BENEFITS OF FUEL SWITCHING AT WATERFORD  
[CALPUFF, 98th percentile]

	Class I area	Baseline impact (dv)	Visibility benefit (dv) of 0.5% S	Visibility benefit (dv) of 0.3% S	Visibility benefit (dv) of 0.0015% S
Unit 1 .....	Breton .....	2.704	0.883	1.348	1.744
Unit 2 .....	Breton .....	2.378	0.798	1.207	1.601

The cost-effectiveness of switching to a lower sulfur fuel oil is less attractive (higher \$/ton) than other controls we have typically required under BART. While the visibility benefits of switching fuel types are significant, the cost-effectiveness in terms of \$/ton is in excess of \$8,000/ton for the most stringent control option. We also note that the facility primarily operates by burning natural gas and the visibility benefits presented in Table 10 represent benefits only for those periods when fuel oil is burned and would not occur during natural gas operation. As discussed above, over the 2011–2015 period, the highest annual emissions for SO<sub>2</sub> reported for a unit at the facility is only 69 tons/year. Considering this, we propose to agree with the LDEQ’s determination that no additional controls or fuel switching are necessary to satisfy BART. The LDEQ and Entergy have entered into an AOC limiting fuel oil sulfur content to 1% or less. This enforceable limit is consistent with past practice, the baseline level utilized in the BART analysis, and the minimum recommendation in the BART Guidelines. We encourage Louisiana and Entergy to reconsider switching to a lower sulfur fuel when assessing controls under reasonable progress for future planning periods.

For PM BART for Units 1 and 2, Louisiana evaluated wet ESP, wet scrubber, cyclones, and switching fuels to 0.5% S fuel oil. In evaluating energy and non-air quality impacts, Louisiana identified energy impacts associated with energy usage for ESPs and scrubbers. In addition, ESPs and scrubbers generate wastewater streams and the resulting wastewater treatment will generate filter cake, requiring land-filling. Louisiana did not identify any impacts regarding remaining useful life. The costs of compliance for these control options are very high compared to their anticipated visibility benefits. Modeled baseline visibility impacts from PM emissions are very low. Modeled visibility impairment from

baseline PM emissions are less than 5% of the total modeled impact from the source. Entergy’s modeled visibility benefits of add-on controls are very small and range from 0 dv to 0.06 dv for cyclone, wet scrubber, and wet ESP for each unit. The BART analyses in the 2017 Louisiana Regional Haze SIP demonstrate that the cost of retrofitting Units 1 and 2 with add-on PM controls would be extremely high compared to the visibility benefits for any of the units.<sup>77</sup> LDEQ concluded that the costs of add-on PM controls do not justify the minimal expected improvement in visibility for these units. LDEQ included an analysis of fuel switching for PM BART in its SO<sub>2</sub> BART analysis, as PM reductions from fuel switching were also included in the assessment of benefits from fuel switching. Accordingly, we are proposing to agree with the determination in the 2017 Louisiana Regional Haze SIP that the fuel content limits for oil burning contained in the AOC that were determined to meet SO<sub>2</sub> BART also satisfy PM BART.

The 2017 Louisiana Regional Haze SIP narrative does not include a BART determination for the auxiliary boiler, but the BART analysis in Appendix D of the 2017 SIP submittal does address the auxiliary boiler and concludes that no additional controls are necessary for BART. The auxiliary boiler only burns natural gas. We note that SO<sub>2</sub> and PM emissions for gas-only units are inherently low,<sup>78</sup> so the installation of any additional PM or SO<sub>2</sub> controls on such units would likely achieve very low emissions reductions and minimal visibility benefits. As there are no appropriate add-on controls, and the status quo reflects the most stringent controls, we propose to agree with Louisiana that SO<sub>2</sub> and PM BART is no

additional controls for the Waterford auxiliary boiler.

**III. Proposed Action**

We are proposing to approve Louisiana’s Regional Haze SIP revision submitted on February 10, 2017, with the exception of the portion related to the Entergy Nelson facility. We propose to approve the BART determination for Michoud based on the draft permit, and note that we expect the proposed permit removing Units 2 and 3 to be final before we take final action to approve this portion of the 2017 Louisiana Regional Haze SIP. Alternatively, LDEQ could submit another enforceable document to ensure that Units 2 and 3 cannot restart without a BART analysis and emission limits, or demonstrate the units have been deconstructed to the point that they cannot restart without obtaining a new NSR permit, making them not operational during the timeframe for BART eligibility. Additionally, final approval of Louisiana’s reliance on CSAPR to satisfy NO<sub>x</sub> BART for EGUs is contingent upon our finalization of the separate rulemaking, proposed on November 10, 2016 (81 FR 78954), that proposed to find that CSAPR continues to be better than BART. Once we take final action on our proposed approval of Louisiana’s 2016 SIP revision addressing non-EGU BART,<sup>79</sup> this proposal, and a future proposed action to address SO<sub>2</sub> and PM BART for the Entergy Nelson facility, we will have fulfilled all outstanding obligations with respect to the Louisiana regional haze program for the first planning period.

**IV. Statutory and Executive Order Reviews**

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the

<sup>77</sup> See TSD for summary of PM control cost analysis.

<sup>78</sup> AP 42, Fifth Edition, Volume 1, Chapter 1: External Sources, Section 1.4, Natural Gas Combustion, available here: <https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf>.

<sup>79</sup> 81 FR 74750 (October 27, 2016).

EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely proposes to approve state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because it does not involve technical standards; and
- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the proposed rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

#### List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur dioxides, Visibility, Interstate transport of pollution, Regional haze, Best available control technology.

**Authority:** 42 U.S.C. 7401 *et seq.*

Dated: May 1, 2017.

**Samuel Coleman,**

*Acting Regional Administrator, Region 6.*

[FR Doc. 2017-10108 Filed 5-18-17; 8:45 am]

**BILLING CODE 6560-50-P**

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 147

[EPA-HQ-OW-2013-0280; FRL-9962-68-OW]

### State of North Dakota Underground Injection Control Program; Class VI Primacy Approval

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) proposes to issue a rule approving an application from the state of North Dakota under the Safe Drinking Water Act (SDWA) to implement an underground injection control (UIC) program for Class VI injection wells located within the state, except those on Indian lands.

**DATES:** Comments must be received on or before July 18, 2017.

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-HQ-OW-2013-0280, to the *Federal eRulemaking Portal*: <http://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or withdrawn. EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the web, cloud, or other file sharing system).

For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets>.

**FOR FURTHER INFORMATION CONTACT:** Lisa McWhirter, Drinking Water Protection Division, Office of Ground Water and Drinking Water (4606M), U.S.

Environmental Protection Agency, 1200 Pennsylvania Ave. NW., Washington, DC 20460; telephone number: (202) 564-2317; fax number: (202) 564-3754; email address: [mcwhirter.lisa@epa.gov](mailto:mcwhirter.lisa@epa.gov) or Douglas Minter, Underground Injection Control Unit, U.S. Environmental Protection Agency, Region 8, 1595 Wynkoop Street, MSC 8WP-SUI, Denver, Colorado 80202; telephone number: (303) 312-6079; fax number: (303) 312-7084; email address: [minter.douglas@epa.gov](mailto:minter.douglas@epa.gov).

#### SUPPLEMENTARY INFORMATION:

#### I. Introduction

The state of North Dakota received primary enforcement responsibility (primacy) for Class I, III, IV and V injection wells under SDWA section 1422 on October 5, 1984, and Class II injection wells under SDWA section 1425 on September 24, 1983. The state of North Dakota has applied to the EPA under SDWA section 1422, 42 U.S.C. sections 300h-1, for primacy for Class VI injection wells, except those located on Indian lands. This action is based on a legal and technical review of the state of North Dakota's application as directed in the Code of Federal Regulations (CFR) at 40 CFR part 145. As a result of this review, EPA is proposing that the state of North Dakota's application meets all applicable requirements for approval under SDWA section 1422, and the state is capable of administering a Class VI UIC program in a manner consistent with the terms and purposes of SDWA and all applicable regulations.

#### II. Legal Authorities

These regulations are being promulgated under authority of SDWA sections 1422 and 1450, 42 U.S.C. 300h-1 and 300j-9.

#### *Requirements for State UIC Programs*

SDWA Section 1421 requires the Administrator of the EPA to promulgate minimum requirements for effective state UIC programs to prevent underground injection activities that endanger underground sources of drinking water (USDWs). SDWA Section 1422 establishes requirements for states seeking EPA approval of state UIC programs.

For states that seek approval for UIC programs under SDWA section 1422, the EPA has promulgated a regulation setting forth the applicable procedures and substantive requirements, codified in 40 CFR part 145. It includes requirements for state permitting programs (by reference to certain provisions of 40 CFR parts 124 and 144), compliance evaluation programs,