

visible emissions summary that will be submitted to the Board with the semiannual reports required by this permit.

b. The permittee must submit a summary with the visible emissions observations together with the semiannual reports required by this permit. This report must include a summary with the results of the readings and the beginning and ending time and the dates when the visible emissions observations were made. The report must also include the total number of readings carried out in that period for the units subject to this requirement. The permittee must retain a copy of the visible emissions reading report that includes the date and time of the reading for at least five years, in compliance with Rule 603(A)(4)(ii) of the RCAP.

vii. The EQB reserves the right to require additional visible emission readings in order to demonstrate compliance with the opacity limit.

viii. The opacity standards apply at all times, except during period of startup, shutdown or malfunction. [40 CFR §60.43c(d)]

 f. **Particulate matter emission limits**

i. The permittee shall not cause nor permit the emission of particulate matter in excess of 0.3 pounds per million Btu of heat input from any fuel burning equipment burning solid or liquid fuel. [Rule 406 of the RCAP].

ii. To demonstrate compliance with the previous condition, the permittee must keep records indicating the type of fuel used in the emission unit and the applicable AP-42 emission factor used to calculate the particulate matter emissions (in lb/MMBtu). The permittee must request authorization from the EQB to use another emission factor to demonstrate compliance with the previous condition.

iii. AbbVie shall demonstrate compliance with the particulate matter standards in §60.43c of the 40 CFR by complying with the opacity limits in section 60.43c(c) of the 40 CFR. AbbVie shall comply with the emission monitoring applicable requirements for particulate matter included in section 60.47c of the 40 CFR.

g. Conditions for the storage of fuel used by the boilers

- i. AbbVie shall not exceed the amount of 1,238,813 gallons of LPG fuel stored in a year in the LPG storage tank. The permittee shall keep a monthly record indicating the amount of LPG gallons loaded to the tank. The record shall be available for inspection to EQB's technical personnel. [PFE-09-0392-0360-I-II-C, 5-29-12]
- ii. AbbVie shall not exceed the amount of 517,238 gallons of comparable fuels stored in a year in the tank TA-660. [PFE-09-0392-0360-I-II-C, 5-29-12]
- iii. AbbVie shall not exceed the amount of 2,407,059 gallons of comparable fuels stored in a year in the tank TA-740. [PFE-09-0392-0360-I-II-C, 5-29-12]
- iv. For the tanks TA-660 and TA-740 you shall keep a monthly record indicating the volume of comparable fuels loaded to each tank. The records shall be available at all times if requested by the EQB personnel [PFE-09-0392-0360-I-II-C, 5-29-12]

*WLF*  
*June*

h. 40 CFR Part 63 Subpart JJJJJJ.

- i. The boilers in this emission unit are subject to the National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers, included in the 40 CFR Part 63 Subpart JJJJJJ. The conditions for this regulation are included in section V.C. of this permit.

3. EU-9: Cogeneration Unit [PFE-09-1110-0587-I-II-C, 5-2-14]

Condition	Parameter	Value	Units	Test Method	Method Frequency	Recordkeeping Requirements	Reports Frequency
Sulfur Limit	SO <sub>2</sub>	1.0	Percent by weight	Supplier Certification	With each delivery	Records	Monthly
Opacity Limit	Opacity	20	Percent	Method 9	Twice per week	With each reading	Quarterly
Hours of Operation Limit	Operation	8,297	Hours per year	Records	Daily	Records	Once every three months

Condition	Parameter	Value	Units	Test Method	Method Frequency	Recordkeeping Requirements	Reports Frequency
Lube oil use rate	Use rate	0.43	g/hp-hr	Records	Continuous	Records	Semiannual
Water Injection System	Water to fuel ratio	0.32	---	Monitor the water to fuel ratio	Daily (24 hours)	Records	Every three months
PM Limit	PM	0.56	g/hp-hr	Design and Maintenance	Continuous	Records	Every three months
Hydrocarbons	HC	0.7	g/hp-hr	Design and Maintenance	Continuous	Records	Every three months
Carbon Monoxide	CO	0.6	g/hp-hr	Design and Maintenance	Continuous	Records	Every three months
Operational Limit	Lube oil	0.43	g/hp-hr	Records	Every eight (8) hours	Records	Every three months
40 CFR Part 63 Subpart ZZZZ	See condition below	---	---	---	---	---	---

a. **Sulfur Emission Limit**

- i. The maximum sulfur content in the fuel no. 6 that will be used in the cogeneration unit shall not exceed 1.0 percent weight according to the stipulation of the case OA-06-AL-217. [PFE-09-1110-0587-I-II-C, 7-feb-14]
- ii. According to la Rule 410 of the RCAP, you shall submit to the EQB a monthly report about the cogeneration unit indicating the monthly fuel use and the sulfur content of the fuel burned daily in weight percent. This reports shall be sent to the Data Validation and Mathematical Modeling Division of the Air Quality Area no later than the next 15 days of the next month for which the report is representative.
- iii. AbbVie shall demonstrate compliance with the fuel sulfur emission limits using a fuel supplier certification. The certification must be obtained every time that the fuel is received in the facility and shall include the following information:
  - a. Name of the fuel supplier;
  - b. Statement by the diesel supplier indicating that it complies with distillate oil specifications, as defined by the American Society for Testing and Materials ASTM D396 (Standard Specification for Fuel

Oils) and section 60.41c del 40 CFR Part 60 Subpart Dc. [PFE-09-0392-0360-II-C, 5-29-12]

c. The fuel sulfur content in weight percent [PFE-09-0392-0360-II-C, 5-29-12]

b. **Visible emission limits:**

- i. Except as established in Resolution R-08-38-8 issued by the EQB, the emissions from the combustion unit shall not exceed 20% opacity, as established in Rule 403 of the RCAP. [PFE-09-1110-0587-I-II-C, 5-29-12]
- ii. AbbVie shall perform opacity observations to the cogeneration unit twice per week using Method 9 of the EPA Appendix A, Part 60 of the 40 CFR. [PFE-09-1110-0587-I-II-C, 2-7-14]
- iii. The results of the opacity readings of the cogeneration unit shall be submitted to the EQB every three months. The readings shall be submitted within 30 days of the following trimester for which it is representative. [PFE-09-1110-0587-I-II-C, 2-7-14]
- iv. With the opacity readings and the data, you shall include the following information: [PFE-09-1110-0587-I-II-C, 2-7-14]
- a. Original opacity reading sheets
  - b. A copy of the opacity readers certification
  - c. Any other data necessary to evaluate and determine the formation of a water condensation plume (E.g., meteorological data, operation data for the unit, etc.).
- v. AbbVie shall prepare and maintain a record with the date and the results of the inspections available at the facility for review by the Board personnel.
- vi. The EQB reserves the right to make or require you to make an opacity evaluation under Method 9 in any time during daylight hours while the equipment is operating in order to demonstrate compliance with the opacity limit.



- vii. The opacity monitoring requirements of the cogeneration unit included in this permit, as agreed in the stipulation of the case OA-06-AL-217, may be modified if new regulations are promulgated or if new requirements from the agencies became applicable to the cogeneration unit. [PFE-09-1110-0587-I-II-C, 2-7-14]
- viii. AbbVie must ensure that their employees are adequately trained in all operations of the emission unit and must document the training provided.
- ix. AbbVie must submit a summary with the results of the visible emission results in the semianual report and in the compliance certification sent to the EQB corresponding to the period when the readings were made.

c. **PSD permit conditions applicable to the cogeneration unit as included in the permit PFE-09-1110-0587-I-II-C**

- i. The cogeneration diesel engine shall be limited to the current design engine capacity of 28,463 horsepower (hp). [PFE-09-1110-0587-I-II-C, 5-29-12]
- ii. The cogeneration diesel engine shall not operate more than 8,297 hours per year (hr/year) with downtime of at least 463 horas per year (hrs/year) computed on a rolling 365-day basis. The hours per rolling 365-day year shall be calculated by the sum of hours of operation during any one day added to the sum of the hours of operation during the previous 364-days. A day consists of a calendar day from midnight to midnight. All yearly permit conditions shall be calculated on this basis. [PFE-09-1110-0587-I-II-C, 5-29-12]
- iii. The cogeneration engine shall be operated at a cylinder lube oil rate not to exceed 0.43 grams per horsepower per hour (g/hp-hr) except in the following circumstances: [PFE-09-1110-0587-I-II-C, 5-29-12]
  - a. During startup and shutdown;
  - b. Immediately after disconnecting from the Puerto Rico Electric Power Authority grid.

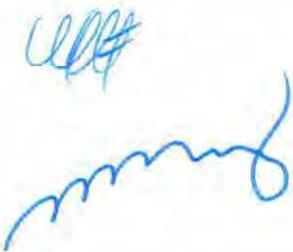
*Handwritten blue ink marks:*  
A signature or initials at the top left.  
A large, stylized scribble below it.

- c. During running-in procedures following installation of new or replacement cylinder components, consistent with proper design and maintenance as specified by the manufacturer; and
- d. During the following emergency circumstances which AbbVie shall use its best efforts to minimize in duration:
  - (1) Abnormal noise in a particular cylinder
  - (2) Smoking indication (in the stuffing box oil drain or otherwise) for a particular cylinder;
  - (3) Stuffing box oil drain analysis for a particular cylinder that indicates an abnormally high content of metal particles; and
  - (4) Operation following failure of a particular cylinder; and
  - (5) Engine overload for a duration of up to one hour.

d. **Emission Limitations applicable to the cogeneration facility diesel engine [PFE-09-1110-0587-I-II-C, 5-29-12]**

i. Control of nitrogen oxides (NOx)

- a. AbbVie shall limit NOx emissions to that level proposed by the EPA in the New Source Performance Standards (NSPS) for stationary internal combustion engines (40 CFR 60, Subpart FF). Control of NOx emissions shall be accomplished by redesigning the fuel injection nozzles, reducing turbocharger output, using manifold air cooling, and using water injection with a minimum water to fuel ratio of 0.32. [PFE-09-1110-0587-I-II-C, 5-29-12]
- b. AbbVie shall operate an instrument to measure the water to fuel ratio in the cogeneration unit based in a daily average of 24 hours. The instrument must be capable to record such value continuously. [PFE-09-1110-0587-I-II-C, 5-29-12]

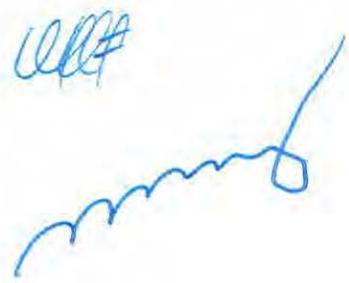


- ii. Control of particulate matter
  - a. AbbVie shall limit particulate emissions (PM) to 0.56 grams per horsepower hour (g/hp-hr) through proper design and maintenance of the diesel engine, [PFE-09-1110-0587-I-II-C, 5-29-12]
- iii. Control of Hydrocarbons (HC)
  - a. AbbVie shall limit hydrocarbons (HC) emissions to 0.7 grams per horsepower hour (g/hp-hr) through proper design and maintenance of the diesel engine. [PFE-09-1110-0587-I-II-C, 5-29-12]
- iv. Control of Carbon Monoxide (CO)
  - a. AbbVie shall limit CO emissions to 0.6 grams per horsepower hour (g/hp-hr) through proper design and maintenance of the diesel engine. [PFE-09-1110-0587-I-II-C, 5-29-12]
- v. Control of sulfur dioxide (SO<sub>2</sub>)
  - a. AbbVie shall burn fuel oil containing no greater than 1.0%<sup>8</sup>. [PFE-09-1110-0587-I-II-C, 5-29-12]
- vi. Control of visible emissions
  - a. The permittee shall limit the visible emissions from the cogeneration engine such that opacity does not exceed 20% (6-minute average), except for a period no greater than 4 minutes, within any 30 minute interval in which the opacity shall not exceed 60%.
- e. **Records**
  - i. AbbVie shall keep records with the following:

---

<sup>8</sup> The PSD permit allows the use of fuel with a 2.0% sulfur percent. However, according to the stipulation of the case OA-06-AL-217, and the permit modification PFE-09-1110-0587-I-II-C from February 7, 2014, the maximum sulfur content in the fuel in the cogeneration unit shall not exceed 1.0% weight.

- a. The hours of operation of the cogeneration engine and cogeneration boiler on a daily and rolling 365-day basis. [PFE-09-1110-0587-I-II-C, 5-29-12]
- b. The cylinder lube oil rate of the cogeneration diesel engine, in units of grams per horsepower hour and the time of day the reading was taken every 8 hours beginning at midnight, on a daily basis. These records shall also be recorded each time the set point is changed. For each and every occurrence (or excursion) in which AbbVie operates the cogeneration facility with a lube oil rate in excess of 0.43 grams /horsepower-hour, such records shall include an adequate description of the following: [PFE-09-1110-0587-I-II-C, 5-29-12]
  - (1) The nature of the circumstances surrounding each excursion.
  - (2) The duration of each excursion, and
  - (3) The corrective measures implemented, or planned to be implemented, to abate future excursions.
- c. Records demonstrating AbbVie's compliance with all permit conditions shall be maintained for 5 years and shall be summarized in reports which shall be submitted to EPA quarterly. Other records to be maintained shall include logs, reports, computer analysis, calibration charts for manual lube oil set point readings and any other documentation necessary to demonstrate compliance with all permit conditions.<sup>9</sup> [PFE-09-1110-0587-I-II-C, 5-29-12]



---

<sup>9</sup> The permit which this condition references is the PSD permit issued on January 31, 1989 and amended on January 3, 2013 to transfer it to AbbVie. These conditions were in turn included in the construction permit PFE-09-1110-0587-I-II-C.

f. **Reporting Requirements**

- i. All summary report shall reflect the following for each month during the trimester. [PFE-09-1110-0587-I-II-C, 5-29-12]
- a. The fuel oil #6 and #2 at the three<sup>10</sup> existing steam boilers consumption on a daily basis and on a rolling 365-day basis. [PFE-09-1110-0587-I-II-C, 5-29-12]
  - b. The total fuel #2 that is consumed daily in the Barceloneta facility and in a rolling 365-day basis. [PFE-09-1110-0587-I-II-C, 5-29-12]
  - c. Total operating hours of the cogeneration diesel engine and the waste heat recovery boiler and the percent of downtime of the waste heat boiler beyond 463 hours on a daily basis and on a rolling 365-day basis. [PFE-09-1110-0587-I-II-C, 5-29-12]
  - d. Total operating hours of the existing boilers (boiler 1) on a daily basis and on a rolling 365-day basis whenever the existing boilers use the 170-gallon allowance.
  - e. Records of cylinder lube oil rate set point readings for the cogeneration engine, in units of grams per horsepower hour g/hp-hr. Such records shall include an adequate description of the following for each and every occurrence (or excursion) in which AbbVie operated the cogeneration facility with a cylinder lube oil rate in excess of 0.43 gram/horsepower hour. [PFE-09-1110-0587-I-II-C, 5-29-12]
    - (1) The nature of the circumstances surrounding each excursion. [PFE-09-1110-0587-I-II-C, 5-29-12]
    - (2) The duration of each excursion; and [PFE-09-1110-0587-I-II-C, 5-29-12]

<sup>10</sup> The PSD references three steam boilers. Currently there in only one boiler affected by PSD at the facility, boiler #1. [EU-10]

- (3) The corrective measures implemented, or planned to be implemented, to abate future excursions. [PFE-09-1110-0587-I-II-C, 5-29-12]
    - ii. AbbVie shall meet all other applicable federal (including, but not limited to, New Source Performance Standards, NSPS), state, and local requirements. [PFE-09-1110-0587-I-II-C, 5-29-12]
    - iii. AbbVie shall, in addition to the above specific conditions, meet all other specifications including, but not limited to, design parameters and emission estimates delineated in the complete PSD application package (complete package dated April 1, 1982) and in the Best Available Control Technology limitations delineated in Appendix A. [PFE-09-1110-0587-I-II-C, 5-29-12]
  - g. **National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (40 CFR Part 63 Subpart ZZZZ)**
    - i. The unit EU-9 is subject to the 40 CFR Part 63 Subpart ZZZZ therefore it must comply with all applicable requirements under the subpart.
    - ii. According to the 40 CFR section 63.6603 and according to Table 2d of the Subpart ZZZZ shall:
      - a. Limit concentration of CO to 23 ppmvd or less at 15% oxygen, or
      - b. Reduce CO emissions by 70% or more.
    - iii. According to the 40 CFR section 63.6605, you must operate the engine in a manner for minimizing emissions.
    - iv. According to the 40 CFR section 63.6640, you must operate and demonstrate continuous compliance with the Work or Management Practices in Table 6 of the Subpart.
    - v. The permittee must comply with the monitoring, installation, collection, operation and maintenance requirements of the 40 CFR, sections 63.6625(e), (f), (h) and (i), as applicable.



- vi. According to the 40 CFR section 63.6625(e), the permittee must:
  - a. Operate and maintain the engine and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
  - b. The permittee must install a non-resettable hour meter if one is not already installed.
  - c. Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.
- vii. The permittee must demonstrate continuous compliance according to the applicable requirements established in 40 CFR sections 63.6605 and 63.6640.
- viii. The permittee must keep applicable records according to the 40 CFR section 63.6655, except with §63.6655(c).
- ix. The permittee must comply with the reporting requirements according to the footnote #2 of the Table 2d of the 40 CFR.
- x. AbbVie must keep records of all the information (including all reports and notifications) required by Subpart ZZZZ, in a form suitable and readily available for expeditious review. You must keep the records for at least 60 months following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 24 months of data shall be retained on site. The remaining 36 months of data may be retained offsite. Offsite records shall be available to the Board within 5 working days, upon request (40 CFR Part 63 General Provisions §63.10(b) and 40 CFR section 63.6655(a) and section 63.6655(e))
- xi. AbbVie must submit a semiannual compliance report where each event in which the facility did not comply with the requirements in Table 2d of the 40 CFR Part 63 Subpart ZZZZ is recorded. [40 CFR section 63.6640 (a-b))]

Handwritten blue ink signature or initials, possibly reading 'L. J. ...' or similar, located on the left side of the page.

- xii. For purposes of deviation for this unit, it shall have the same meaning as the 40 CFR Part 63 Subpart ZZZZ. Generally it means any moment in which the owner or operator fails to comply with any requirement of the 40 CFR Part 63 Subpart ZZZZ included in this permit, including the general obligation to minimize emissions at all times as required by the 40 CFR section 63.6(e)(1)(i). [40 CFR 63 Subpart ZZZZ and 40 CFR 63.6(e)(1)(i)]
- xiii. The permittee must comply with the applicable **General Provisions** in sections 63.1 through section 63.15 which are included in Table 8 of the Subpart ZZZZ of the 40 CFR.

4. EU-10 and EU-11: Utilities and Support Operations (N.F.) and Boiler (Boiler #1 and Boiler #4).

Condition	Parameter	Value	Units	Test Method	Method Frequency	Recordkeeping Requirements	Reports Frequency
PM emission limit (Rule 406 of the RCAP)	PM	0.3	lbs/MMBtu of heat input	Method 5  In substitution : Fuel supplier certification about the type of fuel used	One test during the first year of the permit.	Test final report  Daily records with the type of fuel used and the sulfur content in the fuel	60 days after the results  Semiannual
Sulfur limit	SO <sub>2</sub>	0.5 or 1.0	Weight percent	Method 9  Supplier Certification	With each delivery	Logbook	Monthly
Opacity Limit Rule 403 of the RCAP	Opacity	20	percent	Method 9  Visible emissions	Once during the first year of the permit  Weekly	With each reading	60 days after the reading  Semiannual
Fuel use limit	Fuel use	#6 830,916 #2 4,074,829	Gallons per year (rolling 12-month period)	Consumption	Calculate monthly use	Daily records of the fuel used	Annually

*Handwritten signature*

a. Fuel sulfur limit

- i. The maximum fuel sulfur content for boiler 1 and 4 shall be limited to the following:

Boiler	Type of Fuel	Sulfur Content
1 and 4	Diesel	0.5 % weight
1	Fuel #6	1.0 % weight

[PFE-09-1298-1366-II-C, 5-29-12]

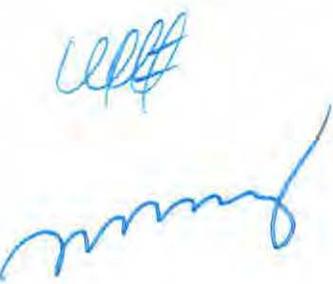
- ii. The permittee shall keep records with the sulfur content in weight percent for fuels #2 and #6 each time it is received in the facility. These records shall be available at all times for review by the Board and the Environmental Protection Agency personnel.

- iii. AbbVie must retain a fuel supplier certification indicating the sulfur content in the fuel. The certification must be obtained each time the fuel is received in the facility and must include the following information: [PFE-09-1298-1366-II-C, 5-29-12]

- a. Name of the fuel supplier
- b. Statement by the diesel supplier indicating that it complies with distillate oil specifications, as defined by the American Society for Testing and Materials ASTM D396 (Standard Specification for Fuel Oils) and section 60.41c del 40 CFR Part 60 Subpart Dc.
- c. The fuel sulfur content in weight percent.

- iv. The permittee shall submit to the Board a monthly report about the daily use of fuel authorized in boilers 1 and 4 and its sulfur content (in weight percent) certified by the supplier no later than the next 15 days of the next month for which the report is representative as required by Rule 410 of the RCAP. This reports shall be sent to the Data Validation and Mathematical Modeling Division of the Air Quality Area and shall be available at the facility for review by EQB personnel. [PFE-09-1298-1366-II-C, 5-29-12]

- v. The permittee shall submit each year, with the annual compliance certification a copy of the reports for that year indicating the use of fuel, the sulfur content



in weight percent of the fuels burned and the amount of SO<sub>2</sub> emissions in tons per year.

- vi. The permittee shall report immediately to the Board about any period during which the sulfur content in the fuel exceeded 0.5 and 1.0 weight percent.

b. **Visible emission limits:**

- i. The permittee shall not exceed the opacity limit of 20%. Nevertheless, and according to Rule 403 (A) of the RCAP, you may discharge visible emissions of an opacity up to 60% for a period of no more than 4 minutes in any consecutive 30 minutes interval.
- ii. The permittee shall hire an independent opacity reader, certified in a school endorsed by the EPA to make one opacity reading on each boiler stack or in a common stack, as applicable, during the first year of the permit using Method 9 described in 40 CFR Part 60 Appendix A. The boilers shall be operating at the time of the opacity reading.
- iii. The permittee shall submit a testing protocol at least 30 days prior to the test for approval by the Board. This protocol must contain the information described in Rule 106(C) of the RCAP. The permittee shall include a copy of the format that will be used to record the visible emissions readings.
- iv. The permittee shall notify in writing to the Board at least 15 days prior to the test to allow the Board the opportunity to have an observer present. [Rule 106 (D) of the RCAP]
- v. The permittee shall submit two copies of the tests report within 60 days after the test. This report shall contain the information required under Rule 106(E) of the RCAP.
- vi. The permittee shall conduct weekly visible emissions tests according to the requirements listed below:
  - a. The permittee shall conduct weekly visual opacity inspections of the units during daylight hours in the chimney stack of the equipment, or in a common stack using a Visible Emissions Reader certified by a program endorsed by the EPA or the Board. When the certified reader



establishes that the opacity limit under RCAP Rule 403 is being exceeded, the permittee shall verify that the equipment causing the visible emissions is operating in accordance with the manufacturer's specifications and permit conditions. If the unit is not working properly, shall take immediate corrective actions in order to eliminate the excess opacity and shall document the steps taken to correct any deficiencies.

(1) The weekly visible emission tests shall be performed according to Method 9 of the 40 CFR Part 60, Appendix A, for at least 6 minutes, and according to the following requirements:

- (a) The permittee shall conduct weekly opacity observations for a minimum of 8 consecutive weeks. If no emissions are observed above the established limit, then -
- (b) The permittee may perform the opacity readings once every two weeks, for a period of 8 consecutive weeks. If emissions are observed above what is established in Rule 403 of the RCAP, you shall revert the observations to a weekly frequency (according to the previous item (a)), If no emissions are observed above the limit established in Rule 203 of the RCAP, then-
- (c) The opacity observations may be performed once per month. If emissions are observed above what is established in Rule 403 of the RCAP, you shall revert the observations to a weekly frequency (according to the item (a) above).
- (d) If the facility reverts to a weekly frequency at any moment, the frequency of the tests shall progress in the same manner as the initial frequency. This means that, once step (a) is completed, you can continue to step (b) and subsequently to step (c), if no emissions are observed above what's established in Rule 403 of the RCAP and so on.



- (2) All the visible emissions observations must be recorded according to Method 9. You shall prepare and maintain a record with the observation dates and results of the observations available at the facility at all times for review by the Board's technical personnel.
- (3) If the unit is not in operation or the conditions in Method 9 are not met on the day that the observation was going to be carried out, the permittee must document this situation in the records of the observations and must inform this situation in the visible emissions summary that will be submitted to the Board with the semiannual reports required by this permit.
- b. The permittee must submit a summary with the visible emissions observations together with the semiannual reports required by this permit. This report must include a summary with the results of the readings and the beginning and ending time and the dates when the visible emissions observations were made. The report must also include the total number of observations carried out in that period for the units subject to this requirement. The permittee must retain a copy of the visible emissions reading report that includes the date and time of the reading for at least 5 years, in compliance with Rule 603(A)(4)(ii) of the RCAP.
- vii. The permittee shall submit a summary with the test results in the semiannual report and in the compliance certification corresponding to the periods when the test were done.
- viii. The Board reserves the right to require additional visible emission readings in order to demonstrate compliance with the opacity limit.
- c. **Particulate matter limit**
- i. AbbVie shall not cause nor permit the emission of particulate matter in excess of 0.3 pounds per million Btu of heat input from any fuel burning equipment burning solid or liquid fuel. [Rule 406 of the RCAP and PFE-09-1298-1366-II-C, 5-29-12]



ii. To demonstrate compliance with the previous condition the permittee shall use any of the following methods:

a. Stack test

- (1) AbbVie shall conduct a stack test during the first year of the permit using Method 5 of the 40 CFR, Part 60, Appendix A.
- (2) The permittee shall submit a testing protocol at least 30 days prior to the test for approval by the Board. This protocol must contain the information described in Rule 106(C) of the RCAP.
- (3) The permittee shall notify in writing to the Board at least 15 days prior to the test to allow the Board the opportunity to have an observer present. [Rule 106 (D) of the RCAP]
- (4) The permittee shall submit two copies of the tests report within 60 days after the test. This report shall contain the information required under Rule 106(E) of the RCAP.
- (5) The permittee shall submit a copy of the report in the annual certification corresponding to the year in which the test was done.
- (6) During the test, the source must be operated at its maximum rated capacity or based on representative performance of the affected facility; understanding that, after proving compliance with any applicable emission limit, the Board may restrict the operation of the source at the capacity reached during the performance test. [Rule 106 (F) of the RCAP]

b. Fuel supplier certification of the type of fuel used

- (1) AbbVie shall maintain records of the type, actual use and fuel sulfur content certified by the fuel supplier in the boilers
- (2) The permittee shall use the most recent AP-42 emission factors together with records of the fuel use and the sulfur



content to calculate the particulate matter emissions and demonstrate compliance with the limits established in the previous table. AP-42 emission factors: Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition, Office of Air Quality Planning and Standards.

d. Fuel use limit

- i. Except as established in condition V.B.4.d.x.(B) (170-gallons allowance), the maximum total fuel use (combined use) for the boilers 1 and 4 shall be limited to the following: [PFE-09-1298-1366-II-C, 5-29-12]

Boiler	Type of Fuel	Use (gal/year)
1 and 4	Diesel	361,986
1	Fuel No. 6	830,914

- ii. Only for the operation of boiler 1<sup>11</sup>, AbbVie may substitute part of the authorized fuel oil no. 6 (830,914 gal/year) for diesel fuel (up to 830,914 gal/year) or for a mixture of diesel and used oil, which contains up to 20% of on-specification used oil. AbbVie shall subtract the amount of diesel or this mixture used to the maximum total permitted use of diesel or fuel no. 6 to know the remaining amount of fuel that can be burned in boiler 1. [PFE-09-1298-1366-II-C, 5-29-12]
- iii. The use of fuel with more than 20% of used oil is not allowed. [PFE-09-1298-1366-II-C, 5-29-12]
- iv. Except in those months when used oil is not used, AbbVie shall demonstrate monthly compliance with the sulfur, halogens and PCB content of the stored used oil that will be used as fuel in boiler 1, so that the following on-specification parameters are not exceeded: [PFE-09-1298-1366-II-C, 5-29-12]

<sup>11</sup> Boiler 1 of 50 MMBtu/hr, make Johnston (ID-No. S-4431) with a steam production rate of 40,000 lbs/hr. Uses 360 gal/hr of diesel or a mixture of diesel with up to 20% of *on-specification* used oil. The mixture shall have a maximum sulfur content of 0.5% weight.

Pollutant	Maximum Permissible Limit (parts per million, ppm) by weight
Arsenic (As)	5
Cadmium (Cd)	2
Chrome (Cr)	10
Lead (Pb)	100
Total halogens	1,000
PCB	Less than 50 ppm
<i>Flash point</i>	Minimum of de 100°F

- v. The use of used oil that does not comply with the specifications on table that classifies it as on-specification is not allowed. [PFE-09-1298-1366-II-C, 5-29-12]
- vi. AbbVie shall maintain a copy of the laboratory results demonstrating that the used oil is not classifies as a hazardous waste, as defined in section 261.3 of the 40 CFR. This results shall be available at the facility for at least 5 years. [PFE-09-1298-1366-II-C, 5-29-12]
- vii. AbbVie shall maintain a record of each maintenance event of the equipment and systems that generate used oil to be used in boiler #1. The record shall include the following information:
  - a. Date in which the used oil was generated
  - b. Total volume generated
  - c. Laboratory results for on-specification parameters and sulfur percent. The record shall be in the facility at all times and shall be available for review by EQB's technical personnel. [PFE-09-1298-1366-II-C, 5-29-12]
- viii. Boilers 1 and 4 shall be provided with a fuel flow meter at the inlet of each boiler and shall be calibrated every six months. The permittee shall prepare and maintain a record indicating the date, time and calibration results. It shall be available for inspection by EQB's technical personnel. [PFE-09-1298-1366-II-C, 5-29-12]

Handwritten blue ink signatures or initials, possibly 'ULLA' and another signature below it.

- ix. The permittee shall prepare and maintain a record on a daily basis and in a rolling annual basis of the amount of fuel, type of fuel and sulfur content in weight percent. Daily compliance with the fuel limit shall be determined by adding the total amount of gallons used by the boilers 1 and 4 during each day to the total fuel used by the boilers in the past 364 days. [PFE-09-1298-1366-II-C, 5-29-12]
- x. Conditions from the PSD permit, as established in the permit PFE-09-1110-0587-I-II-C (applicable only to Boiler 1)
- a. The fuel consumption for the three steam boilers<sup>12</sup> shall be limited to a maximum of 13,000 gallons per day and 830,916 gallons per year, as computed on a rolling 365-day year. [PFE-09-1110-0587-I-II-C, 5-29-12]
- b. For each hour that the diesel cogeneration engine<sup>13</sup> is operating above the required downtime of 463 hours per year computed on a rolling 365-day year, the steam boilers (boiler 1) shall be permitted to consume an additional 170 gallons of fuel (no. 6 or diesel) per hour over the limit in condition V.B.4.d.i. of this permit. Hereinafter referenced as the "170-gallon allowance". [PFE-09-1298-1366-II-C, 5-29-12]
- c. The steam boilers (boiler 1) also shall be permitted to consume the 170-gallon allowance for each hour that the cogeneration boiler is inoperative in excess of the actual cogeneration engine downtime. The 170-gallon allowance shall not apply if the cogeneration engine in excess of 104% of the actual operating time of the cogeneration boiler computed on a rolling 365-day basis [Conditions for the additional use of boiler 1, EPA] [PFE-09-1298-1366-II-C, 5-29-12]
- d. Cogeneration boiler downtime which results from a force majeure event as defined next shall not be applied against the 104% in the use of the 170 gallon allowance, subject to the restrictions contained later

<sup>12</sup> The condition comes from the permit PFE-09-1110-0587-I-II-C, according to the PSD permit conditions, and makes reference to the existing boilers 1, 2 and 3. Boiler 2 and 3 were substituted afterwards, therefore boiler #1 is the only one affected by PSD

<sup>13</sup> Cogeneration unit diesel engine with a power of 20.2 MW (28,463 hp) authorized in the AbbVie PSD permit [EU-9].



on. Force majeure events shall be limited to the result of any acts of God, the acts of the public enemy insurrections, riots, embargos, fires, explosions, floods, shortages of material or disruptions in provisions of energy or other causes beyond the reasonable control and without the fault or negligence of AbbVie. AbbVie must notify the EPA in writing within 10 days of a force majeure event. AbbVie shall take whatever reasonable steps are necessary to correct the situation as quickly as possible. In the event of a force majeure event as outlined above which is not disputed by the Agency, AbbVie shall be entitled to the use of the 170-gallon allowance for up to 30 days from the date of the onset of the event. If Abbvie is unable to resume operation of the cogeneration boiler within 30 days, it shall not be entitled to the 170-gallon allowance thereafter without the express written consent of the EPA. If AbbVie foresees within the 30-day force majeure time frame that it will not be able to resume operation of the cogeneration boiler within 30 days, it may request an opportunity to confer with the EPA for the purpose of obtaining an extension of the 170-gallon allowance within a reasonable time, and will evaluate the information presented by AbbVie, and the target date for resuming operation of the cogeneration boiler. The EPA will evaluate AbbVie's request for an extension of the 170-gallon allowance as expeditiously as possible. If the EPA denies AbbVie's request for an extension of the allowance or if no decision has been reached, AbbVie must on the 31st day after the force majeure event cease burning the additional 170-gallon allowance [Conditions for Additional Use of Boiler 1- EPA] [PFE-09-1298-1366-II-C, 5-29-12]

e. Equipment (i.e. meters) used to accurately measure daily fuel consumption at the steam boiler 1 shall be properly installed, calibrated, operated and maintained. [Conditions for Additional Use of Boiler 1- EPA ] [PFE-09-1298-1366-II-C, 5-29-12]

xi. The permittee shall prepare and maintain record with the hours of operation on a daily basis and on a rolling 365 day basis whenever the boiler use the 170-gallon allowance [Conditions for Additional Use of Boiler 1- EPA ] [PFE-09-1298-1366-II-C, 5-29-12]



- xii. The permittee may substitute the burning of fuel no. 6 for oil no. 2 corresponding to zero increase in SO<sub>2</sub> emissions. [PFE-09-1298-1366-II-C, 5-29-12]
- xiii. The permittee shall prepare and maintain records with the fuel no. 6 and diesel consumption of boiler no. 1 on a daily basis. The permittee shall calculate the daily total of fuel no. 6 and diesel consumption in boiler no. 1 on a rolling 365-day basis. [Conditions for Additional Use of Boiler 1- EPA ] [PFE-09-1298-1366-II-C, 5-29-12]
- xiv. Records demonstrating compliance with all PSD permit conditions shall be maintained for 5 years and summarized in reports which shall be submitted to EPA quarterly. Other records to be maintained shall include logs, reports, computer analysis, calibration charts for manual lube oil set point readings, and any other documentation necessary to demonstrate compliance with all permit conditions. [PSD conditions - EPA] [PFE-09-1298-1366-II-C, 5-29-12]
- xv. With the first quarterly summary report AbbVie shall submit the calibration charts for the manual lube oil set point readings. All summary reports shall reflect the following, for each month during the quarter:
  - a. The fuel oil consumption at boiler 1 on a daily basis and on a 365-day rolling basis; [PSD Conditions- EPA] [PFE-09-1298-1366-II-C, 5-29-12]
  - b. Total operating hours of the existing boiler 1 on a daily basis and on a rolling 365-day basis whenever the existing boiler use the 170-gallon allowance. [PSD Conditions - EPA] [PFE-09-1298-1366-II-C, 5-29-12]
- xvi. AbbVie shall meet all other applicable federal and state requirements, including the New Source Performance Standards (NSPS). [PFE-09-1298-1366-II-C, 5-29-12]
- xvii. The boilers shall be equipped with a fuel flow meter at the inlet of the boiler and shall be calibrated every six months to ensure that the fuel consumption limit is not exceeded. The permittee shall prepare and maintain records with the date, time and calibration results. It shall be available at all times for inspection by EQB's technical personnel.



- xviii. Any increase in annual fuel oil #6 usage at the three existing boilers (Boiler 1) above the limit of 830,916 gal/year gallons per year will constitute a cumulative increase above the significant levels (listed in 40 CFR 52.21 (b)(23) for SO<sub>2</sub> and PM<sub>10</sub> ) as compared to cumulative annual emissions associated with annual fuel oil usage of 1,963,288 gallons and will require a PSD review in accordance to the 40 CFR 52.21. [PFE-09-1110-0587-I-II-C, 5-29-12]
- xix. Unless otherwise offset, any increase in annual fuel oil usage at the three existing boilers (boiler 1) above the limit of 830,916 gallons per year may constitute cumulative annual emissions increases with annual fuel oil no. 6 usage of 1,963,288 gallons) for pollutants (other than SO<sub>2</sub>) including total suspended particulates, and may therefore require PSD review in accordance with 40 CFR 52.21. [PFE-09-1110-0587-I-II-C, 5-29-12]

e. **40 CFR Part 60 Subpart Dc [EU-11]**

- i. Boiler 4 is subject to the 40 CFR Part 60 Subpart Dc. AbbVie shall comply with the applicable requirements of this regulation. [PFE-09-1298-1366-II-C, 5-29-12]
- ii. As provided in 60.43(c) of the 40 CFR, boiler 4 shall not exceed the opacity limit of 20% opacity in a six minute average, except for one 6-minute period per hour of not more than 27% opacity. [PFE-09-1298-1366-II-C, 5-29-12]
- iii. AbbVie shall use Method 9 (average of the 24 observations) to determine the opacity from the stack emissions. (40 CFR, section 60.45c(a)(7)) [PFE-09-1298-1366-II-C, 5-29-12]
- iv. AbbVie shall keep copies of the monthly and annual consumption reports and the methodology used for the calibration of the flow meters of the units for at least 5 years, in compliance with Rule 603(a)(4)(ii) of the RCAP.

f. **Records**

- i. AbbVie shall keep records of the following
  - a. The hours of operation of boiler 1 on a daily basis and on a rolling 365-day basis whenever the boilers use the 170-gallon allowance. [PFE-09-1110-0587-I-II-C, 5-29-12]

- b. The amount of fuel #6 and #2 combusted on a daily basis in boiler 1. The total daily amount of fuel combusted in the three boilers (boiler #1) shall be kept on a rolling 365-day basis.
- c. Records demonstrating AbbVie's compliance with all permit conditions shall be maintained for 5 years and summarized in reports which shall be submitted to EPA quarterly. Other records to be maintained shall include logs, reports, computer analysis, calibration charts for manual lube oil set point readings and any other documentation necessary to demonstrate compliance with all permit conditions.

5. EU-10a - Steam production to support pharmaceutical process operations- Boilers 1a, 2a and 3a

Condition	Parameter	Value	Units	Test Method	Method Frequency	Recordkeeping Requirements	Reports Frequency
Sulfur limit	Sulfur Content	0.05 (diesel)	weight percent	Supplier certification	With each fuel received	Records	Monthly
		0.003 (LPG)					
Opacity limit (Rule 403 of the RCAP)	Opacity	20	Percent	Method 9	Once during the first year of the permit	With each reading	60 days after the reading
				Visible emissions	Weekly		Semiannual
Particulate matter limit (Rule 406 of the RCAP)	PM	0.3	lbs/MMBtu heat input	Method 5	One test during the first year of the permit	Test final report	60 days after the results
				In substitution: fuel supplier certification of the type of fuel used		Daily records of the type of fuel and the sulfur content in the fuel	Semiannual
Fuel use limit	Fuel Use	2,628,000 (diesel)	gal/year	Flowmeter	Daily (rolling 365-day basis)	Records	Monthly
		4,020,840 (LPG)					Semiannual

*Handwritten signatures in blue ink.*

Condition	Parameter	Value	Units	Test Method	Method Frequency	Recordkeeping Requirements	Reports Frequency
Boilers emission limits	Emissions	See condition below	---	---	---	---	---

a. **Fuel sulfur limit**

- i. The maximum sulfur content is limited to 0.05% weight for diesel and 0.003% weight for LPG fuel. [PFE-09-0613-0308-II-C, 10-28-15]
- ii. The permittee shall demonstrate compliance with the sulfur content limits in the fuels (LPG and diesel) with a supplier certification. This certification must be obtained each time that fuel is received in the facility and shall include the following information: [PFE-09-0613-0308-II-C, 10-28-15]
  - a. Name of the fuel supplier.
  - b. The fuel sulfur content or the maximum sulfur content in the fuel in weight percent.
- iii. The permittee shall keep a copy of the fuel supplier certification available for inspection by EQB's technical personnel.
- iv. The permittee shall submit to the EQB a monthly report indicating the fuel consumption and the sulfur content on each boiler on a daily basis. This report shall be sent to the EQB no later than the next 15 days of the next month for which the report is representative. This reports shall be sent to the Data Validation and Mathematical Modeling Division of the Air Quality Area. You shall keep a copy of this reports at the facility for inspection by EQB's technical personnel. [PFE-09-0613-0308-II-C, 11-21-13]
- v. AbbVie shall submit each year, with the annual compliance certification, a summary with the information included in the monthly reports submitted to the EQB indicating the fuel use, the sulfur content in the fuel burned and the amount of SO<sub>2</sub> emissions in tons per year.

Handwritten blue ink signatures and initials, including a large signature and some initials, located on the left side of the page.

b. **Visible emission limits:**

- 
- i. The permittee shall not exceed the opacity limit of 20%. Nevertheless, and according to Rule 403 (A) of the RCAP, you may discharge visible emissions of an opacity up to 60% for a period of no more than 4 minutes in any consecutive 30 minutes interval.
  - ii. The permittee shall hire an independent opacity reader, certified in a school endorsed by the EPA to make one opacity reading on each boiler stack or in a common stack, as applicable, during the first year of the permit using Method 9 described in 40 CFR Part 60 Appendix A. The boilers shall be operating at the time of the opacity reading.
  - iii. The permittee shall submit a testing protocol at least 30 days prior to the test for approval by the Board. This protocol must contain the information described in Rule 106(C) of the RCAP. The permittee shall include a copy of the format that will be used to record the visible emissions readings.
  - iv. The permittee shall notify in writing to the Board at least 15 days prior to the test to allow the Board the opportunity to have an observer present. [Rule 106 (D) of the RCAP]
  - v. The permittee shall submit two copies of the tests report within 60 days after the test. This report shall contain the information required under Rule 106(E) of the RCAP.
  - vi. The permittee shall conduct weekly visible emissions tests according to the requirements listed below:
    - a. AbbVie permittee shall conduct weekly visual opacity inspections of the units during daylight hours in the chimney stack of the equipment, or in a common stack using a Visible Emissions Reader certified by a program endorsed by the EPA or the Board. When the certified reader establishes that the opacity limit under RCAP Rule 403 is being exceeded, the permittee shall verify that the equipment causing the visible emissions is operating in accordance with the manufacturer's specifications and permit conditions. If the unit is not working properly, you shall take immediate corrective actions in order

to eliminate the excess opacity and shall document the steps taken to correct any deficiencies.

- (1) The weekly visible emission tests shall be performed according to Method 9 of the 40 CFR Part 60, Appendix A, for at least 6 minutes, and according to the following requirements:
  - (a) The permittee shall conduct weekly opacity observations for a minimum of 8 consecutive weeks. If no emissions are observed above the established limit, then -
  - (b) The permittee may perform the opacity readings once every two weeks, for a period of 8 consecutive weeks. If emissions are observed above what is established in Rule 403 of the RCAP, you shall revert the observations to a weekly frequency (according to the previous item (a)), If no emissions are observed above the limit established in Rule 203 of the RCAP, then-
  - (c) The opacity observations may be performed once per month. If emissions are observed above what is established in Rule 403 of the RCAP, you shall revert the observations to a weekly frequency (according to the item (a) above).
  - (d) If the facility reverts to a weekly frequency at any moment, the frequency of the tests shall progress in the same manner as the initial frequency. This means that, once step (a) is completed, you can continue to step (b) and subsequently to step (c), if no emissions are observed above what's established in Rule 403 of the RCAP and so on.
- (2) All the visible emissions observations must be recorded according to Method 9. The permittee shall prepare and maintain a record with the observation dates and results of the



observations available at the facility at all times for review by the Board's technical personnel.

- (3) If the unit is not in operation or the conditions in Method 9 are not met on the day that the observation was going to be carried out, the permittee must document this situation in the records of the observations and must inform this situation in the visible emissions summary that will be submitted to the Board with the semiannual reports required by this permit.

- b. The permittee must submit a summary with the visible emissions observations together with the semiannual reports required by this permit. This report must include a summary with the results of the readings and the beginning and ending time and the dates when the visible emissions observations were made. The report must also include the total number of observations carried out in that period for the units subject to this requirement. The permittee must retain a copy of the visible emissions reading report that includes the date and time of the reading for at least 5 years, in compliance with Rule 603(A)(4)(ii) of the RCAP.

- vii. The Board reserves the right to require additional visible emission readings in order to demonstrate compliance with the opacity limit.

c. **Particulate matter limit**

- i. According to Rule 406 of the RCAP, you shall not cause or permit the emission of particulate matter (PM) in excess of 0.3 pounds per million Btu (0.54 gm/10<sup>6</sup> gm/cal) of heat input from any fuel burning equipment burning solid or liquid fuel. [PFE-09-0613-0308-II-C, 10-28-15]
- ii. To demonstrate compliance with the previous condition you shall use any of the following methods:
  - a. Stack test:
    - (1) The permittee shall conduct a stack test during the first year of the permit using Method 5 of the 40 CFR, Part 60, Appendix A.



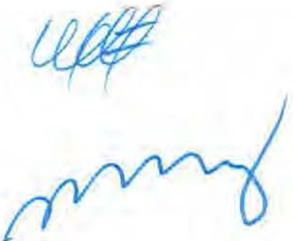
- 
- 
- (2) The permittee shall submit a testing protocol at least 30 days prior to the test for approval by the Board. This protocol must contain the information described in Rule 106(C) of the Regulations for the Control of Atmospheric Pollution (RCAP).
  - (3) The permittee shall notify in writing to the Board at least 15 days prior to the test to allow the Board the opportunity to have an observer present. [Rule 106 (D) of the RCAP]
  - (4) The permittee shall submit two copies of the tests report within 60 days after the test. This report shall contain the information required under Rule 106(E) of the RCAP.
  - (5) The permittee shall submit a copy of the report in the annual certification corresponding to the year in which the test was done.
  - (6) During the test, the source must be operated at its maximum rated capacity or based on representative performance of the affected facility; understanding that, after proving compliance with any applicable emission limit, the Board may restrict the operation of the source at the capacity reached during the performance test. [Rule 106 (F) of the RCAP]

b. Fuel Supplier Certification of the type of fuel used

- (1) The permittee shall maintain records of the type, actual use and fuel sulfur content certified by the fuel supplier in the boilers.
- (2) The permittee shall use the most recent AP-42 emission factors together with records of the fuel use and the sulfur content to calculate the particulate matter emissions and demonstrate compliance with the limits establishes in the previous table. AP-42 emission factors: Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and

Area Sources, Fifth Edition, Office of Air Quality Planning and Standards.

d. **Fuel use limit:**

- 
- i. The 300-hp boilers each one identified as 1a, 2a and 3a are limited to use diesel fuel for a maximum of 876,000 gallons per year each one for a total of 2,628,000 gallons per year in a rolling 365-day basis and a total maximum of 1,340,280 gallons per year for a total of 4,020,840.00 gallons per year for LPG in a rolling 365-day basis. These limits are based on the emissions calculations and limitations presented by AbbVie, Ltd. [PFE-09-0613-0308-II-C, 10-28-15]
  - ii. Each one of the three 300 hp boilers shall be provided with a fuel flow meter at the inlet of the boiler to verify the LPG or diesel fuel use. These meters shall be installed and ready to operate at the boilers startup. The flow meters must be calibrated every six months. The permittee shall prepare and maintain records with the date, time and methodology used and the results of the calibration for inspection by EQB's technical personnel. [PFE-09-0613-0308-II-C, 10-28-15]
  - iii. The use of diesel and LPG fuel shall be determined using the readings of the fuel flow meters in each unit. [PFE-09-0613-0308-II-C, 10-28-15]
  - iv. The permittee shall keep daily records with the fuel use (fuel flow meter readings) and the daily sulfur content in weight percent for each one of the boilers. The consumption recorded in the flow meter shall be used to calculate the monthly fuel use. [PFE-09-0613-0308-II-C, 10-28-15]

e. **Boilers emission limits** [PFE-09-0613-0308-II-C, 10-28-15]

- i. Table 1 include the permissible emissions for the boilers 1a, 2a and 3a in tons per year. The amounts included in the table represent the permissible emissions of these units included in the permit application PFE-09-0613-0308-II-C.

Pollutants	Permissible emissions for the three boilers
PM	2.63

Pollutants	Permissible emissions for the three boilers
SO <sub>2</sub>	9.33
NO <sub>x</sub>	26.28
VOC	2.010
CO	15.08
HAPs	0.054
CO <sub>2</sub>	29,566.85
CO <sub>2</sub> e	29,666.39

- ii. The permittee shall use the AP-42 emission factors that were included in the construction permit application (PFE-09-0613-0308-I-II-C) as included in the following table to perform the allowable emissions and/or actual emission calculations for these three boilers. Such factors shall also be used when submitting the annual emission certification. When submitting the annual emission certification, AbbVie shall verify if the emission factors were amended by the EPA. In case the AP-42 emission factors were amended, the permittee shall apply for a construction permit revision or modification to reflect the change. Also the permittee must submit a written application to the EQB, for approval, for any change in the methodology or the factors. [PFE-09-0613-0308-II-C, 10-28-15]

Pollutants	Diesel Emission Factors	LPG Emission Factors
	lbs/1000 gals	
NO <sub>x</sub>	20	13
CO	5	7.5
VOC	0.2	1
PM	2	0.7
SO <sub>2</sub>	142(S)	0.1(S)

S: sulfur content in weight percent.

- f. **Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR Part 60 Subpart Dc)** [PFE-09-0613-0308-II-C, 10-28-15]
- i. The Boilers 1a, 2a and 3a are subject to the federal regulations included in the Volume 40 of the Code of Federal Regulations (CFR) Part 60, Subpart Dc (*Standard of Performance for Small Industrial-Commercial Steam Generating Units*) and the general provisions in Part 60 Subpart A. They shall operate in continuous compliance with regulation when using diesel fuel or Liquefied Petroleum Gas (LPG). All reports required by this subpart shall be sent to the Environmental Protection Agency (EPA) with a copy to the EQB. [PFE-09-0613-0308-II-C, 10-28-15]
- ii. The sulfur content limit in the fuel for the three boilers shall be determined based in a fuel supplier certification. The certification must comply with the requirements in Section 60.48c(f) of the 40 CFR, as applicable. [40 CFR §60.42c(h), PFE-09-0613-0308-II-C, 10-28-15]
- iii. The initial performance test for the three 300 hp-boilers each one shall consist in a fuel supplier certification as described in section 60.48c (f) of the 40 CFR, as applicable. [40 CFR §60.44c (h), PFE-09-0613-0308-II-C, 10-28-15]
- iv. AbbVie must submit a fuel supplier certification for the diesel fuel and the LPG burned in the boilers. This will be to demonstrate that the sulfur content in the fuel shall not exceed 0.05% weight for diesel (sections 60.42c (d) or (h) and 60.44c (g) and (h) of the 40 CFR, as applicable). The certification shall be obtained each time the fuel is received in the facility. This shall accompany periodically the monthly report required by condition V.B.5.a.iv. of this permit as it is received in the facility. The certification shall correspond to the same period of the report and shall include the following information: [Section 60.48c(f)(1) of the 40 CFR and PFE-09-0613-0308-II-C, 10-28-15]
- a. Name of the fuel supplier.
- b. Statement by the diesel or fuel supplier indicating that it complies with the fuel 1 or 2 specifications, as defined by the American Society for

Testing and Materials ASTM D396, ASTM D975 or ASTM D3699 (section 60.41c of the 40 CFR), and

- c. The method of analysis used to determine the fuel sulfur content.
- v. The permittee must comply with the following recordkeeping and reporting requirements related with the sulfur dioxide (SO<sub>2</sub>) emission limits and the sulfur content in the fuel. [40 CFR section 60.48c, PFE-09-0613-0308-II-C, 10-28-15]
  - a. Calendar dates covered in the reporting period.
  - b. Each 30-day average SO<sub>2</sub> emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.
  - c. Each 30-day average percent of potential SO<sub>2</sub> emission rate.
  - d. Identification of the design capacity of the units and the type of fuel used.
  - e. If fuel supplier certification is used to demonstrate compliance with the fuel sulfur content limit, you shall comply with the requirements in section 60.48c (f) of the 40 CFR. The report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.
  - f. The permittee must records and keep records of the amount of fuel burned during each day of operation. Alternatively, you may use the procedures established in Section 60.48c (g)(2) or (3) of the 40 CFR.



- g. As a requirement from the Board, the reports must be retained in the facility for a period of five (5) years
- h. The reports required by the 40 CFR Part 60, Subpart Dc must be submitted to the Environmental Protection Agency (EPA) every six months, with a copy to the Board.

g. **Monitoring, recordkeeping, notifications and reports [PFE-09-0613-0308-II-C, 10-28-15]**

- i. The permittee must keep and update daily the records with the hours of operation and use and type and use of fuel for each emission source (Boilers 1a, 2a and 3a).
- ii. The permittee must report to the Compliance and Inspection Division of the Air Quality Area of the Board no later than 1 day after the day in which the records and/or emission calculations show that the emission limits, the fuel use limit or the sulfur content limit is exceeded. This report must be sent to:  
  
Chief, Compliance Division  
Air Quality Area  
Puerto Rico Environmental Quality Board  
P.O. Box 11488, San Juan, Puerto Rico 00910  
Fax: 787-756-5906  
E-mail: [aire@jca.pr.gov](mailto:aire@jca.pr.gov)
- iii. The permittee must record daily the scenario under which it is operating (Change in fuel to another one authorized). This record shall be retained at the facility at all times.
- iv. The permittee must keep records and calculations to demonstrate compliance with this permit and must be accessible at all times for inspection by EQB or EPA personnel, upon request.
- v. Each boiler must operate according to the manufacturer's combustion parameters and design specification.

Handwritten blue ink signatures and initials are present on the left side of the page. One signature is a cursive name, and another is a set of initials.

6. EU-12, EU-26 Internal Combustion Engines<sup>14</sup>

Condition	Parameter	Value	Units	Test Method	Method Frequency	Recordkeeping Requirements	Reports Frequency
Hours of operation limit	Hours of operation	1,474 (EU-12)  500 (P5-P7, P9 and P15)  52 (P1, P2, P3 and P8)	hours per year, each one	Hours meter	Continuous	Records	Monthly  Semiannual
SO <sub>2</sub> emission limit	Sulfur content	0.5  0.0015 (P13)  0.0015 (EU-12)	Weight percent	Fuel supplier certification	Each time fuel is received in the facility	Records with the sulfur percent	Monthly
Fuel Use	Diesel Fuel	See condition	gallons/year	Flow Meter	Calculate monthly use	Monthly records with the fuel use	Semiannual
Visible emissions	Visible emissions	20	Percent 6-minute average	Method 9  Visible emissions inspections	Once during the first year of the permit  Weekly (Only EU-12)	Visible emissions reading.	60 days after the reading
40 CFR Part 60 Subpart III	See condition below	---	---	---	---	---	---
40 CFR Part 63 Subpart ZZZZ	See condition below	---	---	---	---	---	---

<sup>14</sup> The conditions for the generators and the fire pumps in this emission units come from the following permits: PFE-09-1096-1166-I-C (EU26-P1), PFE-09-0595-0728-II-O (EU26-P2 and EU26-P8), PFE-09-0303-0034-II-C (EU26-P3), PFE-09-0905-0060-II-C (EU26-P4), PFE-09-1094-1306-I-C (EU26-P5, P9, P10, P14 and P15), PFE-09-1089-0923-I-II-O (EU26-P6 and P7), PFE-09-0902-1501-I-II-C (EU26-P11, P12 and P13) and PFE-09-0492-0527-II-C (EU-12)

a. **Hours of operation limit**

- i. The maximum operating hours for the internal combustion engines for the electric generators and the fire pumps included in this emission unit shall not exceed the following:

Engines	hours/year (each one)
EU-12	1,474
EU26-P1	52
EU26-P2	
EU26-P3	
EU26-P8	
EU26-P4	500
EU26-P5	
EU26-P6	
EU26-P7	
EU26-P9	
EU26-P10	
EU26-P11	
EU26-P12	
EU26-P13	
EU26-P14	
EU26-P15	

*CCF*  
*[Signature]*

- ii. The equipment shall be provided with a non-resettable hour meter to verify the hours of operation and the fuel consumption.
- iii. The permittee shall keep a monthly record with the date, the readings of the hour meters and the total hours of operation for each engine. The permittee shall include in the records the purpose of operation (purpose of operation: emergency, maintenance, etc.). The hours recorded in the hour meter shall be used to calculate the cumulative fuel use in a monthly basis. The fuel consumption calculation during any 12 consecutive months shall be calculated by adding the fuel used on each month. It shall be available for inspection for review by EQB's technical personnel.