The proposed renewal to the Title V Major Source Operating Permit is issued under the provisions of ADEM Admin. Code R. 335-3-16. The applicant has requested authorization to perform the work or operate the facility shown on the application and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit. This permit would not allow the emission of additional air pollutants.

McIntosh Power Plant (McIntosh) was issued its existing Major Source Operating Permit (MSOP) on March 21, 2013, with an expiration date of March 20, 2018. Per ADEM Rule 335-3-16-.12(2), an application for permit renewal shall be submitted at least six (6) months, but not more than eighteen (18) months, before the date of expiration of the permit. Based on this rule, the application for renewal was due to the Department no later than September 20, 2017, but no earlier than September 20, 2016. An application for permit renewal was received by the Department on September 18, 2017.

The permitted units are owned by the PowerSouth Energy Cooperative located in McIntosh, AL. The primary components of McIntosh are:

- One (1) 110 MW Simple Cycle, Gas-Fired, Compressed Air Energy Storage (CAES) Turbine
- Two (2) 113 MW Simple Cycle, Gas and Distillate Fuel Oil Fired Turbines
- Two (2) 170.5 MW Simple Cycle, Gas-Fired Turbines
- One (1) 1,200 kW Emergency Generator
- One (1) 141 bhp Fire Pump

**Significant Changes to Permit**

Under this renewal of the permit, the units at this facility are no longer subject to the requirements under the Clean Air interstate Rule (CAIR) but are now subject to those under the Cross-State Air Pollution Rule (CSAPR).

Under this renewal of the permit, the NOx emissions standards for Unit 1, Unit 2, and Unit 3 have been changed to reflect the requirements of 40 CFR 60 Subpart GG.

Under this renewal of the permit, a reporting requirement has been added for units subject to 40 CFR 60 Subpart GG.

Under this renewal of the permit, the CAM plan for Units 2 & 3 has been removed. In addition, CEMS monitoring of Carbon Monoxide (CO) for Units 2 & 3 has been removed. A testing requirement has been added in lieu of CEMS.

Under this renewal of the permit, McIntosh is complying with SO2 requirements for Units 1, 4, and 5 with fuel supplier certification recordkeeping and reporting.
Under this renewal of the permit, McIntosh has requested a Permit Shield.

**One (1) 110 MW Simple Cycle, Gas-Fired, Compressed Air Energy Storage (CAES) Turbine**

Unit 1 is designed to combust natural gas or distillate fuel oil. During the last renewal (2013) PowerSouth indicated that no fuel oil was used in the CT; therefore, a provision was added to the MSOP to restrict fuel to natural gas only. There are no emission reduction devices on this unit.

Unit 1 has limits in place to avoid a Prevention of Significant Deterioration (PSD) review as specified in ADEM Admin. Code r. 335-3-14-.04. The combustion turbine is also subject to the Federal New Source Performance Standards (NSPS) contained in 40 CFR Part 60 Subpart GG. The unit is also subject to rules under the Acid Rain Program and the CSAPR. The emissions standards and expected emissions for the unit are listed below.

**Emission Standards**

The following emission standards shall apply at all times except for startup, shutdown, or load change:

**Nitrogen Oxides (NOₓ):**
- NOₓ emissions shall not exceed 208 ppmvd at 15% O₂ from the combustion turbine based on a four hour rolling average. *(40 CFR 60.332(a)(1))*

- NOₓ emissions from this unit shall not exceed 100 tons per rolling twelve month period. *(ADEM Admin. Code r. 335-3-14-.04 Anti-PSD)*

**Sulfur Dioxides (SO₂):**
- SO₂ emissions from the combustion turbine shall not exceed 0.015% by volume at 15% O₂ on a dry basis. *(40 CFR 60.333(a))*

- Sulfur content of fuel burned in this unit must be less than 0.8% by weight. *(40 CFR 60.333(b))*

- Only natural gas may be used as fuel for this unit. *(ADEM Admin. Code r. 335-3-14-.04 Anti-PSD)*

- McIntosh must keep vendor certifications which document the sulfur content of fuels used in the turbine. *(Rule 335-3-16-.10)*

**Carbon Monoxide (CO):**
There are no rules regarding CO emissions for this unit.

**Particulate Matter (PM):**
There are no rules regarding PM emissions for this unit.

**Opacity:**
- This unit shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-
minute average opacity of particulate emissions greater than 40%. *(ADEM Admin. Code r. 335-3-4-.01)*

**Volatile Organic Compounds (VOC):**
There are no rules regarding VOC emissions for this unit.

During times of Startup, Shutdown, or Load change acceptable work practice standards should be implemented to reduce emission of pollutants.

**Expected Emissions**

The expected emissions from each unit are found by multiplying the maximum heat rate of the turbine with the AP-42 emission factor for each pollutant.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Expected Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(lb/hr)</td>
</tr>
<tr>
<td>NO&lt;sub&gt;x&lt;/sub&gt;</td>
<td>53.3</td>
</tr>
<tr>
<td>SO&lt;sub&gt;2&lt;/sub&gt;</td>
<td>1.8</td>
</tr>
<tr>
<td>CO</td>
<td>8.1</td>
</tr>
<tr>
<td>VOC</td>
<td>1.1</td>
</tr>
<tr>
<td>PM</td>
<td>5.4</td>
</tr>
</tbody>
</table>

**Compliance Assurance Monitoring (CAM)**

This unit does not have an active control device for any regulated pollutant; therefore, CAM is not applicable.

**Continuous Emissions Monitoring Systems (CEMS)**

Under the requirements of the Acid Rain Program, CEMS are required for this unit. CEMS are installed for monitoring of NO<sub>x</sub> emissions.

**Recordkeeping and Reporting**

- McIntosh is required to keep a record of monthly and 12-month rolling total of fuels used in the combustion turbine in a form suitable for inspection for at least five years *(ADEM Admin. Code r. 335-3-14-.04)*
- McIntosh is required to keep hourly, monthly, and 12-month NO<sub>x</sub> emissions totals in a form suitable for inspection for at least five years *(ADEM Admin. Code r. 335-3-14-.04)*
- McIntosh is required to submit an emissions report detailing the monthly and 12-month NO<sub>x</sub> emission totals within 30 days of the end of each calendar quarter *(ADEM Admin. Code r. 335-3-14-.04)*
- McIntosh is required to submit reports of excess emissions and monitor downtime, including during times of startup, shutdown, and malfunction, to the Department on a semiannual basis *(40 CFR 60.334(j))*
Vendor certifications that document the sulfur content of the natural gas in this unit should be kept in a form suitable for inspection for a period of at least 5 years following said recording.

Cross State Air Pollution Rule (CSAPR):

According to ADEM Admin. Code r 335-3-5-.06 through r 335-3-5-.36 and ADEM Admin. Code r 335-3-8-.07 through r 335-3-8-.65, this unit is subject to the applicable provisions of Cross-State Air Pollution Rule (CSAPR) to include all applicable provisions of the SO₂ Group 2 Trading Program requirements as well as all applicable provisions of the NOₓ Annual Trading Program requirements.

Two (2) 113 MW Simple Cycle, Natural Gas/Fuel Oil Fired, Turbines

Units 2 and 3 are designed to combust natural gas or distillate fuel oil. This unit uses water injection to control NOₓ emissions produced by this unit.

Units 2 and 3 have limits in place to avoid a Prevention of Significant Deterioration (PSD) review as specified in ADEM Admin. Code r. 335-3-14-.04. The combustion turbines are also subject to the Federal New Source Performance Standards (NSPS) contained in 40 CFR Part 60 Subpart GG. The units are also subject to rules under the Acid Rain Program and the CSAPR. The emissions standards and expected emissions for the units are listed below.

Emission Standards

The following emission standards shall apply at all times except for startup, shutdown, or load change:

Nitrogen Oxides (NOₓ):

- NOₓ emissions shall not exceed 82 ppmvd at 15% O₂ from the combustion turbines based on a four hour rolling average. (40 CFR 60.332(a)(1))

- NOₓ emissions from these units shall not exceed 0.07 lb/MMBTU and 105.3 lb/hr in premix mode while firing Natural Gas. (ADEM Admin. Code r. 335-3-14-.04 Anti-PSD)

- NOₓ emissions from these units shall not exceed 0.16 lb/MMBTU and 198 lb/hr in diffusion mode while firing Natural Gas or Fuel Oil. (ADEM Admin. Code r. 335-3-14-.04 Anti-PSD)

Sulfur Dioxides (SO₂):

- SO₂ emissions from the combustion turbines shall not exceed 0.015% by volume at 15% O₂ on a dry basis. (40 CFR 60.333(a))

- Sulfur content of fuel burned in these units must be less than 0.8% by weight. (40 CFR 60.333(b))

- The combustion turbines shall fire only natural gas and fuel oil. Fuel oil sulfur content must be ≤ .05% by weight. (ADEM Admin. Code r. 335-3-14-.04)
Carbon Monoxide (CO):
- CO emissions from these units shall not exceed 0.04 lb/MMBTU and 60.16 lb/hr while firing Natural Gas. *(ADEM Admin. Code r. 335-3-14-.04)*
- CO emissions from these units shall not exceed 0.06 lb/MMBTU and 90.24 lb/hr while firing Fuel Oil. *(ADEM Admin. Code r. 335-3-14-.04)*

Particulate Matter (PM):
- PM emissions from these units shall not exceed 0.01 lb/MMBTU and 15.04 lb/hr while firing Natural Gas and Fuel Oil. *(ADEM Admin. Code r. 335-3-14-.04)*

Opacity:
- These units shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. *(ADEM Admin. Code r. 335-3-4-.01)*
- These units shall not discharge an opacity greater than 10%. *(ADEM Admin. Code r. 335-3-14-.04)*

Volatile Organic Compounds (VOC):
- VOC emissions from these units shall not exceed 0.01 lb/MMBTU and 15.04 lb/hr while firing Natural Gas and Fuel Oil. *(ADEM Admin. Code r. 335-3-14-.04)*

During times of Startup, Shutdown, or Load change acceptable work practice standards should be implemented to reduce emission of pollutants.

**Expected Emissions**

Expected emissions from each unit are based on the fuel combustion limits set forth in the MSOP. These limits are multiplied by the emission rate specified in AP-42 to obtain the yearly expected emissions. For NO\textsubscript{x} specifically, the Anti-PSD limit for fuel combustion and the Anti-PSD limit on NO\textsubscript{x} emissions are used to calculate the yearly rate. Hourly emission rates are calculated using the maximum heat rate of each unit and the AP-42 emission factor for each pollutant.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Expected Emissions (each unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(lb/hr)</td>
</tr>
<tr>
<td>NO\textsubscript{x}</td>
<td>27.9</td>
</tr>
<tr>
<td>SO\textsubscript{2}</td>
<td>50.7</td>
</tr>
<tr>
<td>CO</td>
<td>25.5</td>
</tr>
<tr>
<td>VOC</td>
<td>3.5</td>
</tr>
<tr>
<td>PM</td>
<td>27.9</td>
</tr>
</tbody>
</table>

Compliance Assurance Monitoring (CAM)
These units have the potential to emit pollutants at a rate which classifies them as a major source. These units also have control devices for certain pollutants; therefore, these units are subject to the provisions set forth under 40 CFR 64 “Compliance Assurance Monitoring.” McIntosh uses the CEMS required for these units as a compliance guarantee; therefore, no additional CAM plan is necessary.

**Continuous Emissions Monitoring Systems (CEMS)**

Under the requirements of the Acid Rain Program, CEMS are required for this unit. CEMS are installed for monitoring of NO\textsubscript{x} and CO emissions.

Under this renewal of the MSOP, the requirement to operate CO CEMS on these units is being removed. The CEMS were originally installed as a compliance guarantee when McIntosh took Anti-PSD limits to become minor with regard to PSD. Current emissions of CO are well below permitted limits. McIntosh has supplied data to the Department that shows emission totals from 2014 to 2017 to be 0.74 tons. Currently CEMS calibration is burdensome due to the limited run times that these units have, and as a result monitor availability is low. With these considerations, CO CEMS are no longer required for these units. In lieu of CEMS monitoring, stack tests should be performed once every five years before the renewal of the MSOP to ensure compliance with permit limits on CO.

**Recordkeeping and Reporting**

- McIntosh is required to keep a record of monthly and 12-month rolling total of fuels used in the combustion turbine and the heat inputs of those fuels in a form suitable for inspection for at least five years. *(ADEM Admin. Code r. 335-3-14-.04)*

- McIntosh is required to keep records which document the sulfur content of any fuel oil used in these units in a form suitable for inspection for a period of at least five years. *(ADEM Admin. Code r. 335-3-14-.04)*

- McIntosh is required to submit an emissions report detailing the monthly and 12-month NO\textsubscript{x} emission totals within 30 days of the end of each calendar quarter. *(ADEM Admin. Code r. 335-3-14-.04) (40 CFR 60.334(j))*

**Cross State Air Pollution Rule (CSAPR):**

According to ADEM Admin. Code r 335-3-5-.06 through r 335-3-5-.36 and ADEM Admin. Code r 335-3-8-.07 through r 335-3-8-.65, this unit is subject to the applicable provisions of Cross-State Air Pollution Rule (CSAPR) to include all applicable provisions of the SO\textsubscript{2} Group 2 Trading Program requirements as well as all applicable provisions of the NO\textsubscript{x} Annual Trading Program requirements.

**Two (2) 170.5 MW Simple Cycle, Gas-Fired Turbines**

Units 4 and 5 are designed to combust natural gas. There are no active control devices associated with these units.

Units 4 and 5 have limits in place to avoid a Prevention of Significant Deterioration (PSD) review as specified in ADEM Admin. Code r. 335-3-14-.04. The combustion turbines are also subject to the Federal New Source Performance Standards (NSPS) contained in 40 CFR Part 60 Subpart
Emission Standards

The following emission standards shall apply at all times except for startup, shutdown, or load change:

**Nitrogen Oxides (NO\textsubscript{x}):**

- NO\textsubscript{x} emissions shall not exceed 15 ppm at 15% O\textsubscript{2} from the combustion turbines when firing natural gas and operating at greater than 75% of peak load based on a four hour rolling average. (*40 CFR 60 Subpart KKKK Table 1*)

- NO\textsubscript{x} emissions shall not exceed 96 ppm at 15% O\textsubscript{2} from the combustion turbines when firing natural gas and operating at less than 75% of peak load based on a four hour rolling average. (*40 CFR 60 Subpart KKKK Table 1*)

- NO\textsubscript{x} emissions shall not exceed 42 ppm at 15% O\textsubscript{2} from the combustion turbines when firing fuel oil based on a four hour rolling average. (*40 CFR 60 Subpart KKKK Table 1*)

- Combined NO\textsubscript{x} emissions from these units shall not exceed 246 tons per rolling 12-month period. (*ADEM Admin. Code r. 335-3-14-.04 Anti-PSD*)

**Sulfur Dioxides (SO\textsubscript{2}):**

- Gasses from the combustion turbines shall not contain SO\textsubscript{2} concentrations which exceed 0.9 lb/MWh gross output. (*40 CFR 60.4330(a)(1)*)

- Fuels burned in the combustion turbines shall not contain potential sulfur emissions in excess of 0.06 lb SO\textsubscript{2}/MMBTU heat input (*40 CFR 60.4330(a)(1)*)

- McIntosh must keep vendor certifications which document the sulfur content of fuels used in the turbine. (*Rule 335-3-16-.10*)

**Carbon Monoxide (CO):**

There are no applicable CO limits in place for this unit.

**Particulate Matter (PM):**

There are no applicable PM limits in place for this unit.

**Opacity:**

- These units shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. (*ADEM Admin. Code r. 335-3-4-.01*)

**Volatile Organic Compounds (VOC):**

There are no applicable VOC limits in place for this unit.
During times of Startup, Shutdown, or Load change acceptable work practice standards should be implemented to reduce emission of pollutants.

**Expected Emissions**

The expected emissions from each unit are found by multiplying the maximum heat rate of the turbine with the AP-42 emission factor for each pollutant.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Expected Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO\textsubscript{x}</td>
<td>159.7 (lb/hr)</td>
</tr>
<tr>
<td>SO\textsubscript{2}</td>
<td>5.5</td>
</tr>
<tr>
<td>CO</td>
<td>24.2</td>
</tr>
<tr>
<td>VOC</td>
<td>3.4</td>
</tr>
<tr>
<td>PM</td>
<td>16.1</td>
</tr>
</tbody>
</table>

**Compliance Assurance Monitoring (CAM)**

These units have the potential to emit pollutants at a rate which classifies them as a major source. These units do not have control devices; therefore, these units are not subject to the provisions set forth under 40 CFR 64 “Compliance Assurance Monitoring.”

**Continuous Emissions Monitoring Systems (CEMS)**

Under the requirements of the Acid Rain Program, CEMS are required for this unit. CEMS are installed for monitoring of NO\textsubscript{x} emissions.

**Recordkeeping and Reporting**

- McIntosh is required to keep a record of monthly and 12-month rolling totals of NO\textsubscript{x} emissions from each turbine in a form suitable for inspection for at least five years. *(ADEM Admin. Code r. 335-3-14-.04)*

- McIntosh is required to keep vendor certifications which document the sulfur content of the natural gas used in these units in a form suitable for inspection for a period of at least five years. *(ADEM Admin. Code r. 335-3-14-.04)*

- McIntosh is required to submit an excess emissions report within 30 days of the end of each calendar quarter. *(ADEM Admin. Code r. 335-3-14-.04, 335-3-16-.05(c))*

- Vendor certifications that document the sulfur content of the natural gas in this unit should be kept in a form suitable for inspection for a period of at least 5 years following said recording.

**Cross State Air Pollution Rule (CSAPR):**

According to ADEM Admin. Code r 335-3-5-.06 through r 335-3-5-.36 and ADEM Admin. Code r 335-3-8-.07 through r 335-3-8-.65, this unit is subject to the applicable provisions of Cross-State Air Pollution Rule (CSAPR) to include all applicable provisions of the SO\textsubscript{2} Group 2 Trading
Program requirements as well as all applicable provisions of the NO\textsubscript{x} Annual Trading Program requirements.

One (1) 141 bhp Diesel Fire Pump

This emergency firewater engine is subject to 40 CFR 63, Subpart ZZZZ but is not subject to 40 CFR Part 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) because it was manufactured before the applicability date of April 1, 2006. This emergency engine is subject to the applicable requirements in 40 CFR Part 63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE)).

Emission Standards

- McIntosh must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. (40 CFR §63.6604(b))

- McIntosh must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop their 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. (40 CFR §63.6625(e)(3))

- McIntosh must install a non-resettable hour meter if one is not already installed. (40 CFR §63.6625(f))

- McIntosh must 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, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to Subpart ZZZZ apply. (40 CFR §63.6625(h))

Operational

- McIntosh must change oil and filter every 500 hours of operation or annually, whichever comes first. (40 CFR §63.6603(a))

- The fire engine may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of this unit is limited to 100 hours per year. There is no time limit on the use of this unit in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. This unit may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-
emergency power as part of a financial arrangement with another entity. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in 40 CFR 63 Subpart ZZZZ, is prohibited. (40 CFR §63.6640(f))

**Expected Emissions**

The expected emissions are based on AP-42 emission factors, manufacturer's certifications, and a maximum operation of 500 hours per year. The expected emissions of the firewater pump engine subject to Subpart ZZZZ – Existing Firewater Pump Emergency Engines are shown below:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>141 BHP Emergency Fire Engine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lb/hr</td>
</tr>
<tr>
<td>PM$<em>{10}$/PM$</em>{2.5}$</td>
<td>0.31</td>
</tr>
<tr>
<td>SO$_2$</td>
<td>0.29</td>
</tr>
<tr>
<td>NO$_x$</td>
<td>4.37</td>
</tr>
<tr>
<td>CO</td>
<td>0.94</td>
</tr>
<tr>
<td>VOC</td>
<td>0.35</td>
</tr>
<tr>
<td>HAP</td>
<td>0.0037</td>
</tr>
<tr>
<td>CO$_2e$</td>
<td>161.82</td>
</tr>
</tbody>
</table>

**Compliance Assurance Monitoring (CAM)**

This engine does not have the potential to emit greater than 100 tons of any of the above-referenced pollutants and has no active control devices; therefore, it is not subject to CAM requirements.

**Recordkeeping and Reporting**

- The Permittee must keep records of the parameters that are analyzed as part of the oil analysis program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. These records shall be maintained in a manner suitable for inspection for a period of 5 years from record generation. (40 CFR §63.6625(i))

- The Permittee must keep records of the maintenance conducted on these units in order to demonstrate that it operated and maintained these units and after-treatment control device (if any) according to its own maintenance plan or according to manufacturer's written instructions. These records shall be maintained in a manner suitable for inspection for a period of 5 years from record generation. (40 CFR §63.6655(e))

- The Permittee must keep records of the hours of operation of each engine that is recorded through the non-resettable hour meter. The facility must document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. These records shall be
maintained in a manner suitable for inspection for a period of 5 years from record generation. (40 CFR §63.6655(f))

One (1) 1,592 bhp Emergency Generator

This emergency generator is subject to 40 CFR 63, Subpart ZZZZ but is not subject to 40 CFR Part 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) because it was manufactured before the applicability date of April 1, 2006. This emergency engine is subject to the applicable requirements in 40 CFR Part 63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE)).

Emission Standards

- McIntosh must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. (40 CFR §63.6604(b))

- McIntosh must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop their 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. (40 CFR §63.6625(e)(3))

- McIntosh must install a non-resettable hour meter if one is not already installed. (40 CFR §63.6625(f))

- McIntosh must 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, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to Subpart ZZZZ apply. (40 CFR §63.6625(h))

Operational

- McIntosh must change oil and filter every 500 hours of operation or annually, whichever comes first. (40 CFR §63.6603(a))

- The generator may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of this unit is limited to 100 hours per year. There is no time limit on the use of this unit in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. This unit may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-
emergency power as part of a financial arrangement with another entity. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in 40 CFR 63 Subpart ZZZZ, is prohibited. (40 CFR §63.6640(f))

Expected Emissions

The expected emissions are based on AP-42 emission factors, manufacturer’s certifications, and a maximum operation of 500 hours per year. The expected emissions of the firewater pump engine subject to Subpart ZZZZ – Existing Firewater Pump Emergency Engines are shown below:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>1,592 BHP Emergency Fire Engine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lb/hr</td>
</tr>
<tr>
<td>PM10/PM2.5</td>
<td>3.5</td>
</tr>
<tr>
<td>SO2</td>
<td>3.26</td>
</tr>
<tr>
<td>NOx</td>
<td>49.35</td>
</tr>
<tr>
<td>CO</td>
<td>10.63</td>
</tr>
<tr>
<td>VOC</td>
<td>4</td>
</tr>
<tr>
<td>HAP</td>
<td>0.0422</td>
</tr>
<tr>
<td>CO2e</td>
<td>1827</td>
</tr>
</tbody>
</table>

Compliance Assurance Monitoring (CAM)

This engine does not have the potential to emit greater than 100 tons of any of the above-referenced pollutants and has no active control devices; therefore, it is not subject to CAM requirements.

Recordkeeping and Reporting

- The Permittee must keep records of the parameters that are analyzed as part of the oil analysis program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. These records shall be maintained in a manner suitable for inspection for a period of 5 years from record generation. (40 CFR §63.6625(i))

- The Permittee must keep records of the maintenance conducted on these units in order to demonstrate that it operated and maintained these units and after-treatment control device (if any) according to its own maintenance plan or according to manufacturer’s written instructions. These records shall be maintained in a manner suitable for inspection for a period of 5 years from record generation. (40 CFR §63.6655(e))

- The Permittee must keep records of the hours of operation of each engine that is recorded through the non-resettable hour meter. The facility must document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. These records shall be
maintained in a manner suitable for inspection for a period of 5 years from record generation. (40 CFR §63.6655(f))

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