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Startup Shutdown Malfunction Plan		Viktor Prismantas	

1. Purpose

- 1.1 At all times, including periods of startup, shutdown, and malfunction, the owner or operator must operate and maintain associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that the owner or operator reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices.
- 1.2 Malfunctions must be corrected as soon as practicable after their occurrence. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, an owner or operator must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices.
- 1.3 The purpose of the startup, shutdown, and malfunction plan is to
 - 1.3.1 Ensure that, at all times, the owner or operator operates and maintains air pollution control and monitoring equipment, in a manner which satisfies the general duty to minimize emissions;
 - 1.3.2 Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and
 - 1.3.3 Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

2. Scope and Applicability

- 2.1 40 CFR 63.6(e)(3) states an affected source must develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; and a program of corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with the relevant standard.
- 2.2 The startup, shutdown, and malfunction plan does not need to address any scenario that would not cause the source to exceed an applicable emission limitation in the relevant standard.
- 2.3 Most of Aquatic APCD's are installed to ensure 12-month rolling averages required by 40 CFR 63 Subpart WWWW are not exceeded. Where a Title V daily limit could be exceeded, there are process interlocks to prevent operation of the process line(s). The SSM Plan includes instruction on how to properly start up and shut down the applicable APCD.

3. Responsibility

- 3.1 It is the responsibility of the Plant Manager or their authorized representative to enforce this plan.

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3.2 It is the responsibility of the maintenance department to keep the APCD SSM log, or its equivalent, up to date.

3.3 The HSE Manager is responsible to ensure the SSM log records are maintained as required.

4. Definitions

4.1 APCD – Air Pollution Control Device

4.2 MACT – Maximum Achievable Control Technology

4.3 PLC – Process Logic Control

4.4 SSM Plan – Startup/Shutdown/Malfunction Plan

5. Policy & Procedure

5.1 Start-up

5.1.1 Aquatic facilities shall start up the APCD as per the DURR operations manual.

5.1.2 Start Up of an APCD is considered complete when minimal settings programmed into the APCD PLC are met.

5.1.2.1 No production may take place during start up at facilities whose permits require the facility to operate an APCD.

5.1.2.2 Any facility which is not required to use the APCD may operate during periods of start up under the following conditions;

- ENV-22_SSM Log Form, or its equivalent, is kept of operating times in periods of start up.
- Emissions are calculated without the APCD control efficiency for the periods of time prior to reaching minimum operating settings
- No emission limits (Title V or MACT) are exceeded as a result of operations.

5.1.2.3 Operation shall not occur during start up at any facility where operations would cause excess emissions

5.2 Shutdown

5.2.1 A shutdown is any planned event to bring the APCD offline. Unplanned shutdowns are described in the malfunction section of this procedure.

5.2.2 Aquatic facilities shall shut down the APCD as per the DURR operations manual.

5.2.3 Shutdown of an APCD starts when the unit is brought below the minimal settings programmed into the APCD PLC.

5.2.3.1 No production may take place during shutdown at facilities whose permits require the facility to operate an APCD.

5.2.3.2 Any facility which is not required to use the APCD at all times when the line is operating may operate during periods of shutdown under the following conditions;

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- ENV-22_SSM Log Form, or its equivalent, is kept of operating times in periods of shutdown.
- Emissions are calculated without the APCD control efficiency for the periods of time after going below minimum operating settings
- No emission limits (Title V or MACT) are exceeded as a result of operations.

5.2.3.3 Operation shall not occur during shut down at any facility where operations would cause excess emissions

5.3 Malfunctions

5.3.1 A malfunction is any unplanned event which brings down the APCD offline for any length of time.

5.3.2 Aquatic facilities shall minimize malfunctions by following the preventative maintenance guide found in the Durr Operations Manual.

5.3.3 Aquatic facilities shall react to malfunctions of the APCD as per the DURR operations manual.

5.3.4 Malfunctions of an APCD begin when the unit goes below the minimal settings for temperature and/or pressure drop, which are programmed into the APCD PLC or the APCD suddenly ceases operation.

5.3.4.1 No production may take place during malfunctions at facilities whose permits require the facility to operate an APCD.

5.3.4.2 Any facility which is not required to use the APCD may operate during periods of malfunctions under the following conditions;

- ENV-22_SSM Log Form, or its equivalent, is maintained to record periods of malfunctions.
- Emissions are calculated without the APCD control efficiency for the periods of time after going below minimum operating settings
- No emission limits (Title V or MACT) are exceeded as a result of operations.

5.3.4.3 Operation shall not occur during malfunctions at any facility where operations would cause excess emissions.

5.3.4.4 Operation shall not occur at any facility where exhaust systems are not functioning.

5.3.5 Facilities shall provide malfunction information on semi-annual Title V/MACT reports.

5.3.5.1 Malfunction information shall include

- Reason for malfunction
- Length of time of malfunction and;
- A statement that no emissions limits were exceeded as a result of the malfunction.

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5.4 All Aquatic APCD systems which are used to meet emissions limits shall have interlocks installed which shut down the operations when monitored systems drop below permitted requirements.

6. Reference

6.1 40 CFR 63.8

6.2 Form ENV-22_SSM Log Form or State supplied equivalent

7. Record Maintenance

7.1 The HSE Manager shall maintain ENV-22_SSM Log Form for a period of 5 years from the last date indicated on the form.

8. Revision History

Revision Number	Revision Date	Changes
0	12/01/05	First issued
1	05/01/07	Changed to incorporate conditions of new unit