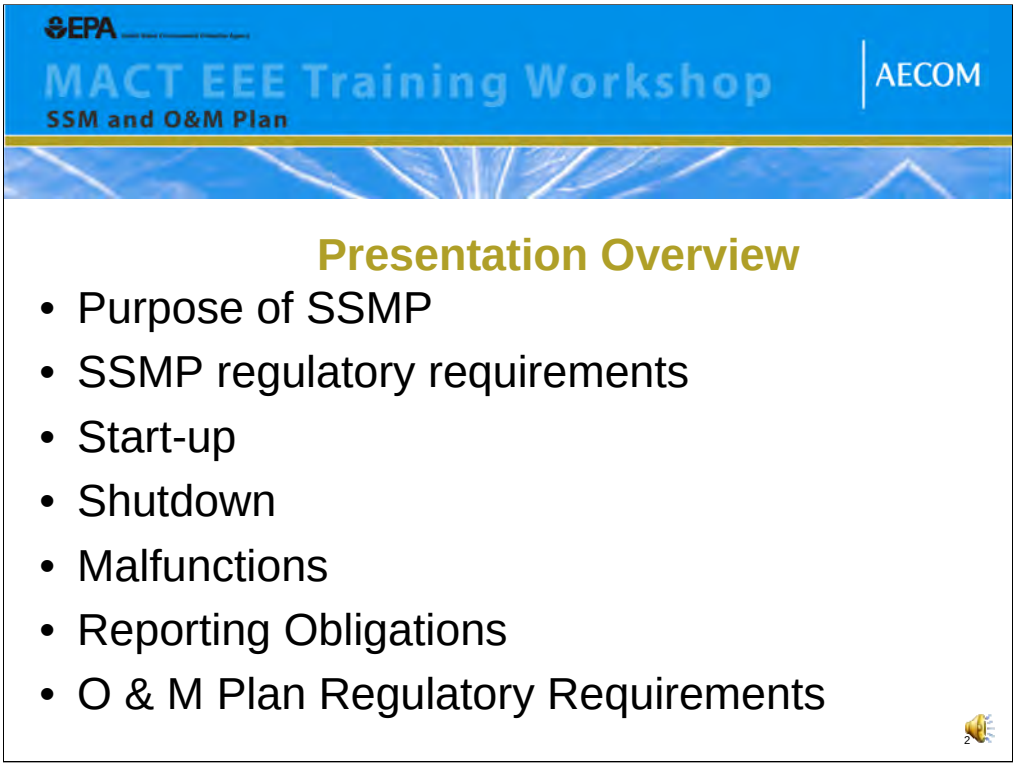
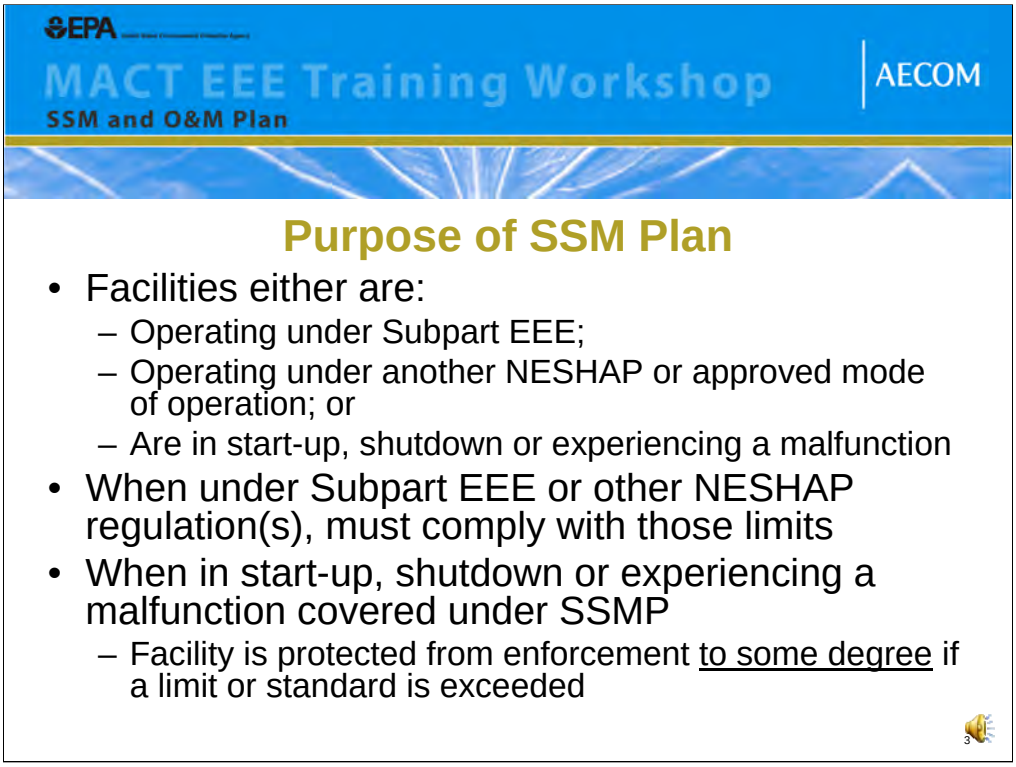
This module presents a summary of the Subpart EEE requirements for Start-up Shutdown and Malfunction Plans (SSM Plans) and Operations and Maintenance Plans. It should be noted that recent action in the Washington, D.C. Circuit Court of Appeals regarding SSM Plans may affect these plans and current interpretations as to how they are to be used.

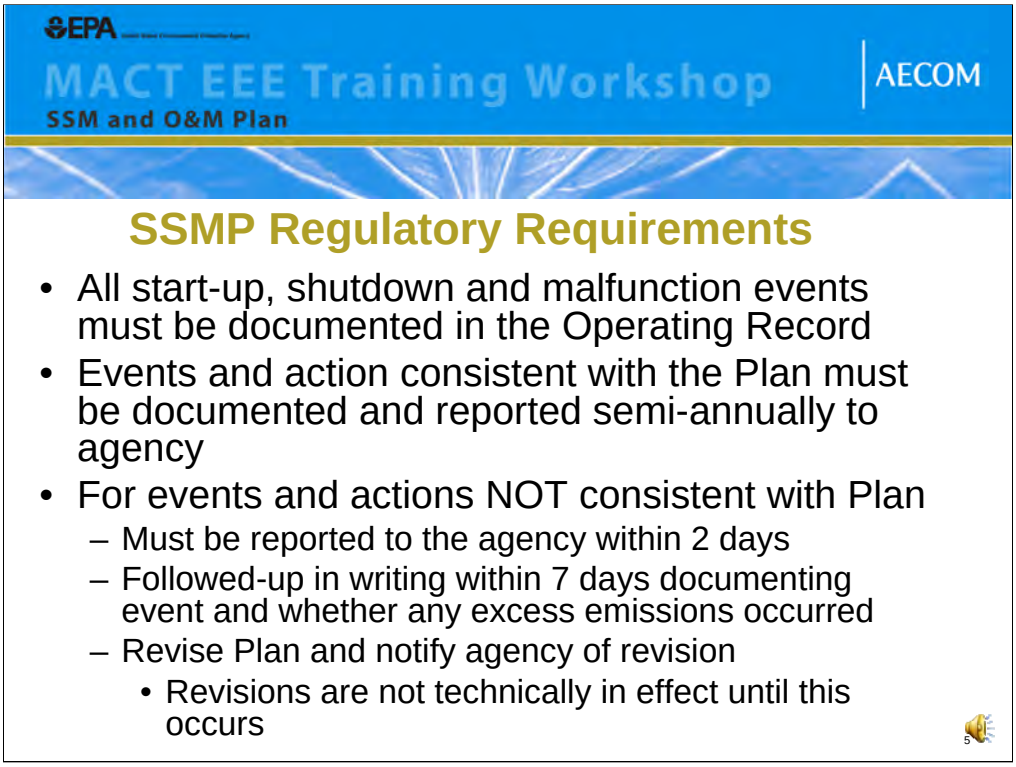


The topics that will be covered in this module are summarized on this slide. Topics discussed will be the purpose of Startup, Shutdown and Malfunction Plans, or SSMPs, SSMP regulatory requirements, start-ups, shutdowns, malfunctions, reporting obligations, and operation and maintenance plan regulatory requirements.



The purpose of the SSM Plan historically under NESHAP regulations has been to define certain procedures that re to be followed when a affected source is in start-up, shutdown or experiencing a malfunction. But, beyond that, it is first important to understand that all HWCs are either operating under Subpart EEE, operating under another NESHAP regulation or approved mode of operation or are in in start-up, shutdown or experiencing a malfunction. What this means is that when operating under Subpart EEE or other approved mode, they are subject to those requirements and when they in start-up, shutdown or experiencing a malfunction, they are subject to the requirements of their SSM Plan. When under the SSM Plan, this has historically provided some degree of an enforcement shield as there is recognition that during these events, compliance with operating limits or emissions standards may be problematic. This should not be construed to provide a carte blanche exemption or waiver of a source's duty to comply, but enforcement discretion by the lead agency has generally been the practice where justified. As mentioned in the introduction to this module, recent DC Court action may change the overall use of SSM Plans.

SSM Plans must cover all components of the HWC from waste feed to CEMs and include or identify procedures for start-ups, shutdowns and malfunctions. Plus, the SSM Plan must also contain corrective measures for malfunctioning equipment. The plans and procedures are part of the overall operating and compliance record and agencies are requiring them to be submitted for review and approval.



HWCs must document all SSM events in the Operating Records. Events and actions taken that are consistent with what is written in the plan must be documented in the Operating Records as well and included in the semi-annual report to the lead agency. Events and actions taken during an SSM event that are not consistent with or address in the SSM Plan trigger expedited reporting and follow-up by the facility. This includes verbal communication to the agency with 2 days after the event followed-up in writing within 7 days after the event documenting the actions taken and whether any excess emissions occurred during the event. The SSM Plan must then be revised and the agency notified of such revision before those revisions can be considered in effect in the SSM Plan.

SSMP Definitions – Start-up

- Start-up is the setting in operation of an affected source or portion of an affected source for any purpose (40 CFR § 63.2)
- Facility's definitions will vary to give them coverage
  - Usually tied to being at condition to burn waste and/or actually burning them

Revised 1/16/09

The following slides will discuss the definitions for each of the three types of events covered in the SSM Plan. The term start-up can cover several different scenarios at an operating HWC, depending on what condition the unit is in prior to commencing start-up. The first bullet provides the regulatory definition found on 40 CFR 63.2. HWCs can commence start-up from a totally "cold" condition, say after the unit has had maintenance or repair work done. They can be running, but burning non-Subpart EEE streams and then decide to start burning hazardous waste. Any of these conditions, and possibly some others, could be considered "setting in operation". HWCs must also define when start-up ends as this determines when they are "operating" under Subpart EEE. Facility's definitions of this in their SSM Plan may vary, but it is typically tied either to when they are at the right conditions to treat their hazardous waste or when they have actually successfully started feeding them. This is generally dependent on how challenging actually starting up on hazardous fuels is and whether the HWC feels they may have exceedance issues during the transition or not.

SSMP Definitions – Shutdown

- Shutdown is the cessation of operation of an affected source or portion of an affected source for any reason (40 CFR § 63.2)
- Shutdown is typically defined as being when:
  - Hazardous waste feed to stop, and
  - The combustion chamber temperature is <allowable setpoint
- Can be either planned or emergency
- Can include cool-down to ambient temperatures or unit may be maintained at intermediate temperatures
  - Such as a standby mode

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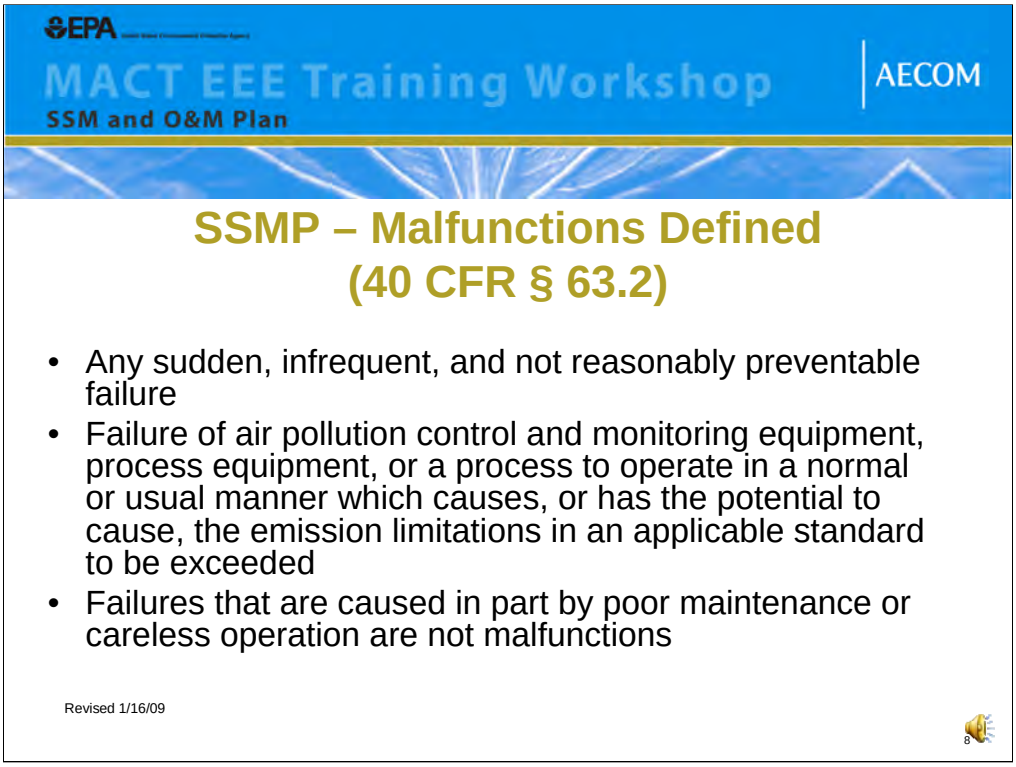
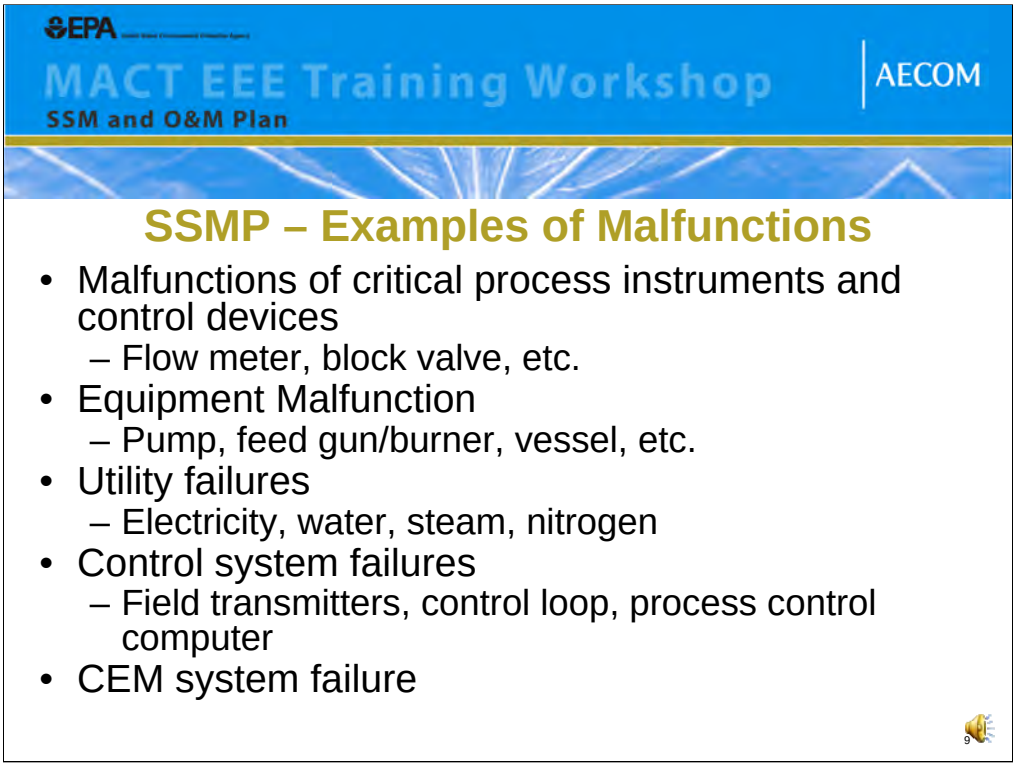
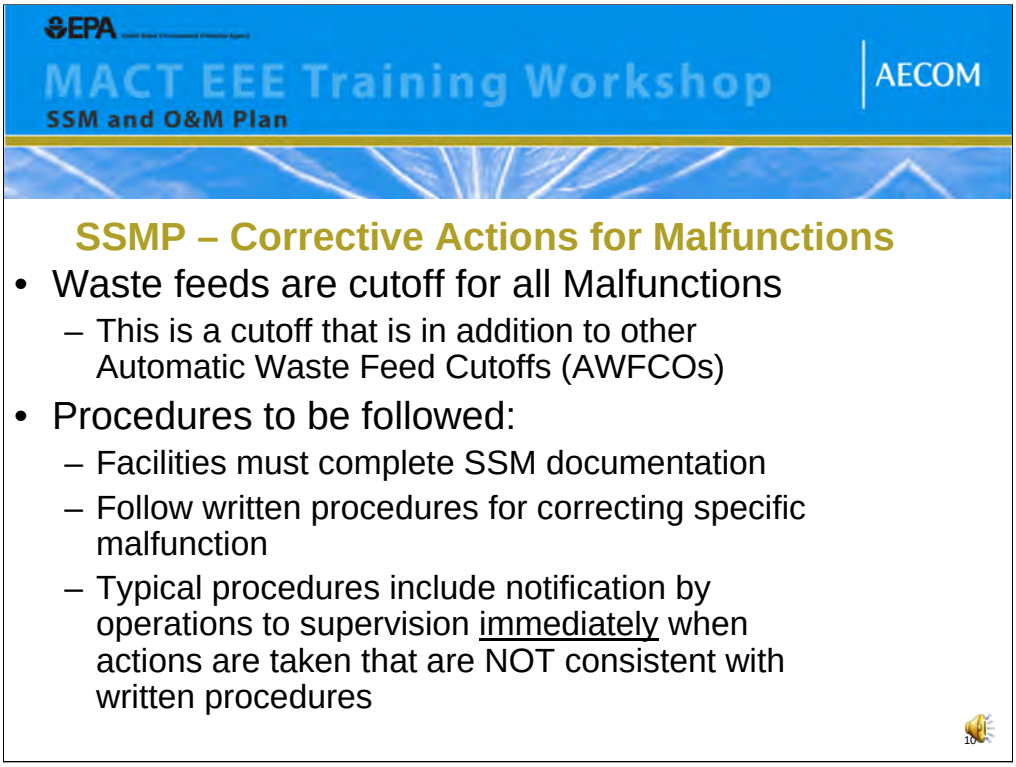
The definition of shutdown is also included in 40 CFR 63.2 and is provided in this slide. Practically though, shutdowns are typically tied to two conditions. The first is ceasing the treating of hazardous waste and the second is when the HWC OPLs fall outside of allowable limits (e.g., when the combustion chamber temperature falls below the minimum allowable setpoint. Some shutdowns are planned, some are not and they can be a shutdown that includes a cool-down all the way to ambient temperatures in the combustion chamber or it may be a shutdown of a specific unit operation other than the combustion chamber(s) where the unit is maintained at intermediate temperatures, such as a “standby” situation.



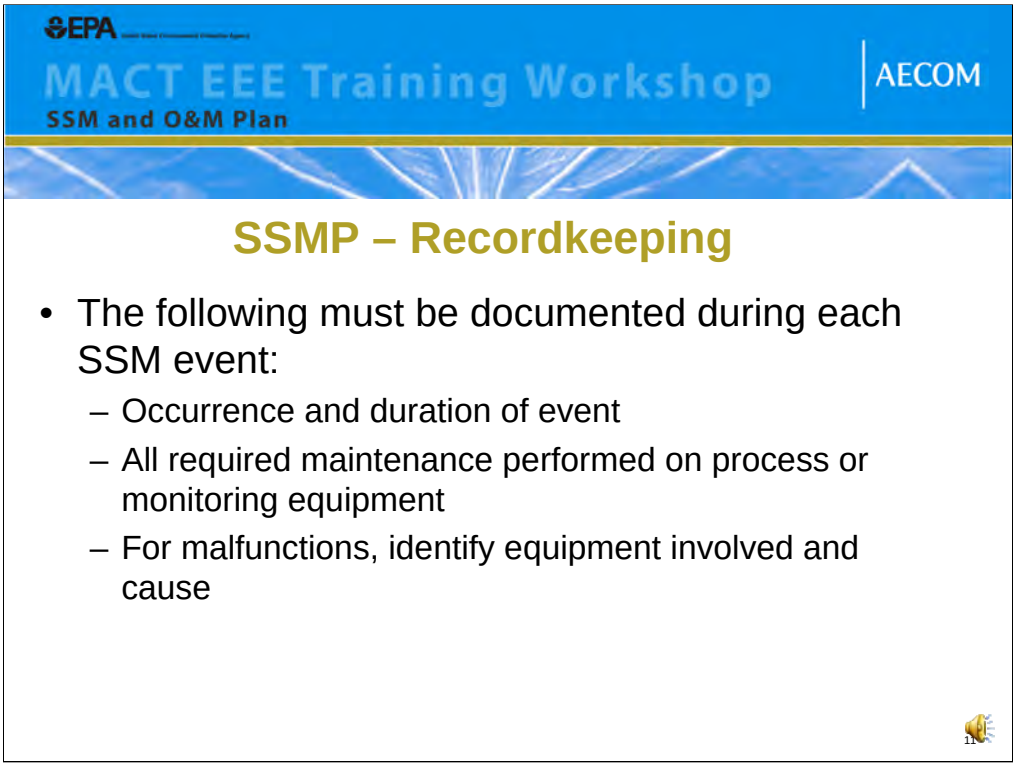
And finally, malfunctions are also defined in the regulations and the language is provided in this slide. A key point that HWCs must focus on in identifying these events are the three criteria – sudden, infrequent and not reasonably preventable. For example, if the same piece of equipment fails consistently over time for the same or similar reason and a facility has considered this a malfunction, this is likely and incorrect classification. Where routine issues like this occur, HWCs should be correcting the underlying problems causing them.



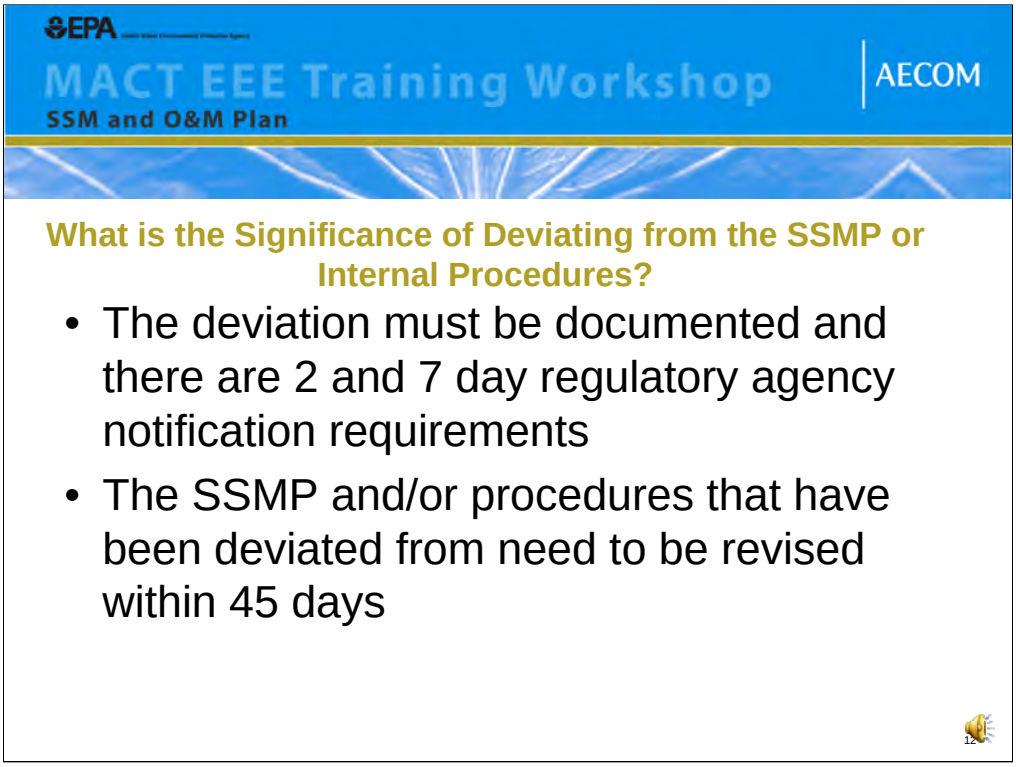
This slide provides some common examples of the type of events that might be considered malfunctions consistent with the definition provided on the previous slide. If these types of events occur only periodically and without any predictable pattern, then it is reasonable to consider them as malfunctions and utilize the SSM Plan.



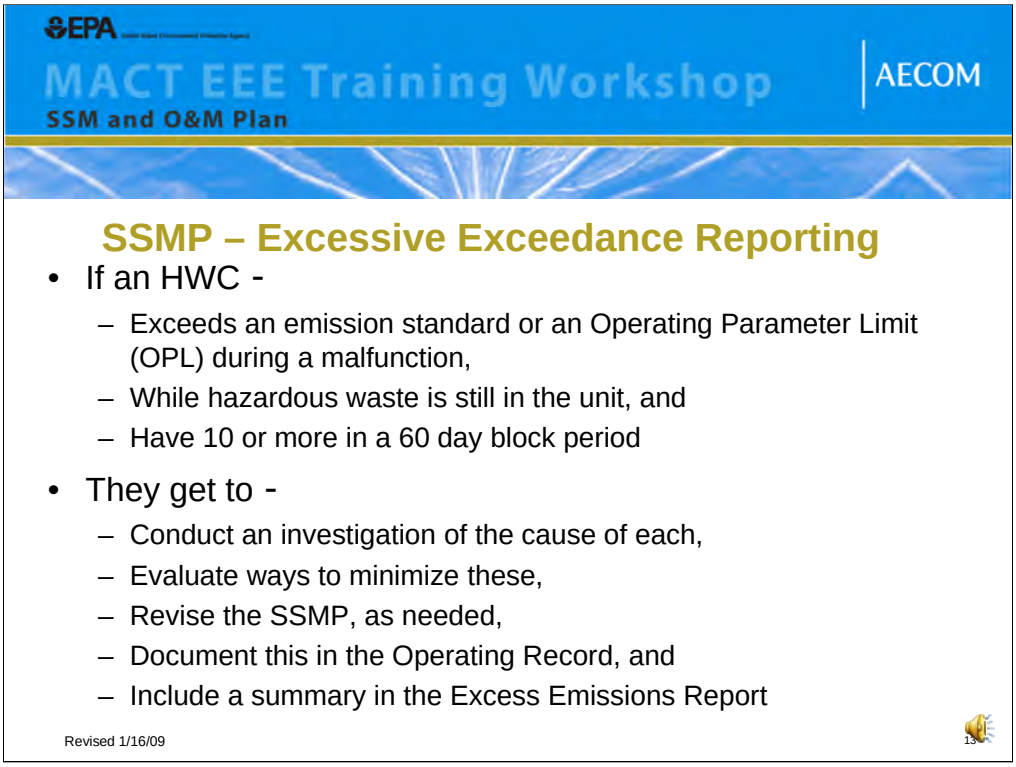
If a malfunction occurs, the first response that needs to be taken is an AWFCO. HWCs then must complete their SSM documentation and follow specific procedures that are either spelled out in the SSM Plan or referenced in it for correcting the problem. HWC operations staff typically follow a communications procedure to notify supervision immediately when actions are taken that are inconsistent with the SSM Plan due to rapid timing requirements for agency notification.



Documentation, often in the form of a dedicated checklist for SSM events, must be kept that includes the information summarized on this slide. This documentation is part of the Operating Record and is used as a basis for summarizing these events in the semi-annual report.



In addition to the 2 day and 7 day notification requirements for actions taken that are inconsistent with the SSM Plan, the Plan and/or relevant procedures need to be revised within 45 days.

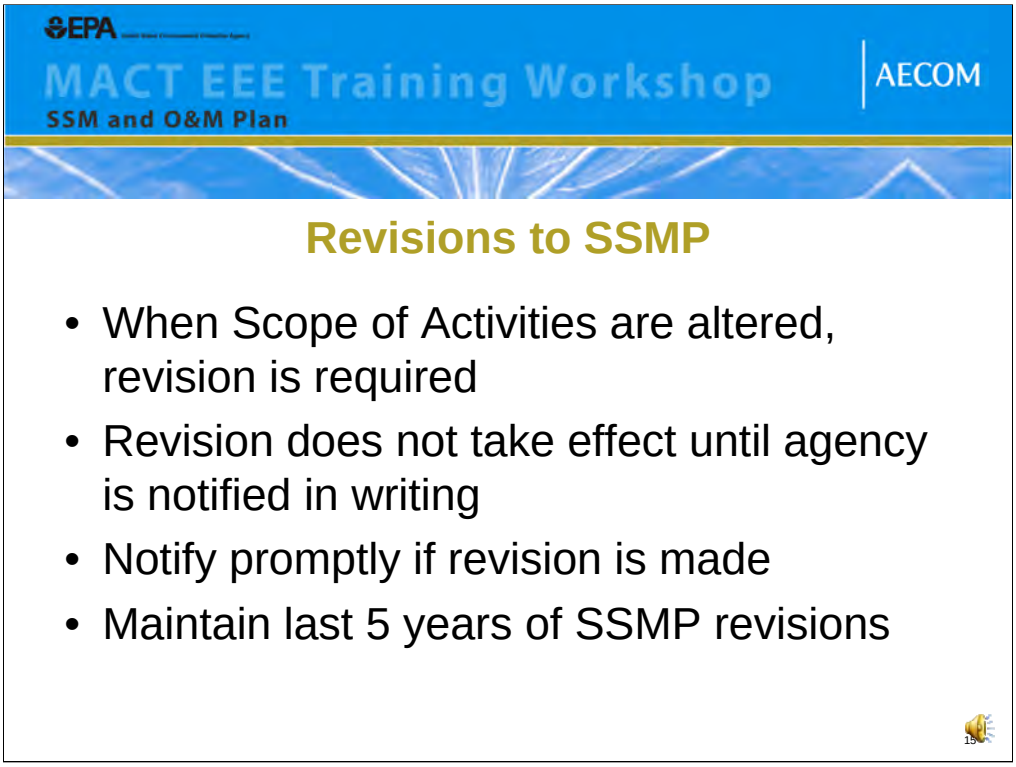


The SSM regulations also include requirements for investigating excessive exceedances depending on the number of occurrences in a 60 day period. Where 10 or more do occur in this time frame, HWCs must investigate their cause(s), evaluate ways to mitigate them, revise the SSM Plan if needed and document and report these activities.

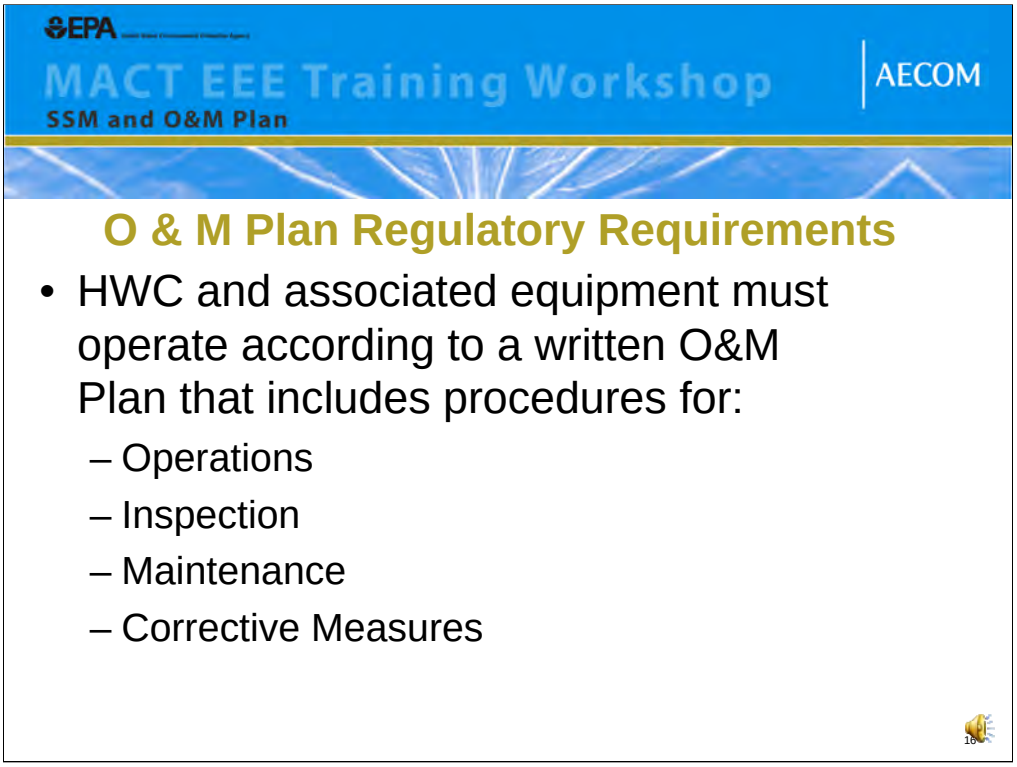
SSMP – Summary of Reporting Requirements

- Semi-annual SSM Reports include:
  - Events that did not follow the SSMP
  - Excessive Exceedance Reports
  - Summary Report
- Immediate SSMP reports (2 & 7 day reports)
  - Actions taken during an SSM event that are not consistent with SSMP or written procedures
- Written reports must be signed by Responsible Company Official

This slide summarizes the various types of reports that HWC facilities should be providing under SSM regulations. In addition, written reports must be signed by personnel meeting the definition of "Responsible Company Official" or who has been delegated that role for these reporting purposes.



This slide summarizes the revision procedures and records retention period for SSM Plans.

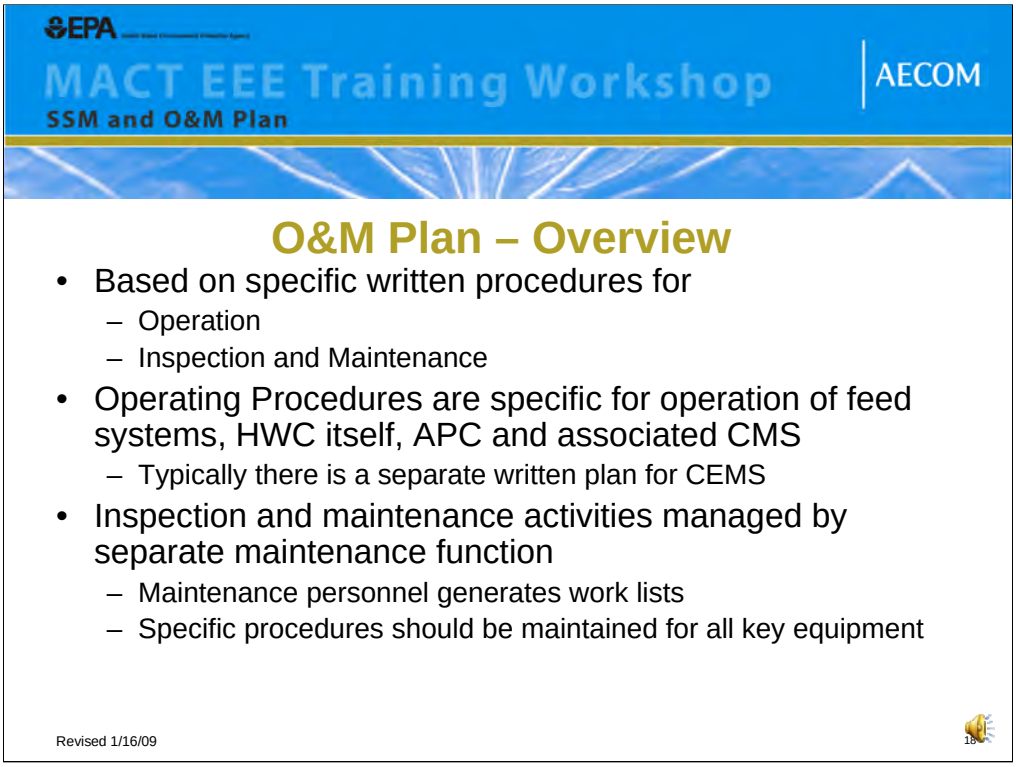


Switching now to the Subpart EEE requirements pertaining to Operations and Maintenance (O&M) Plans, every HWC must operate and maintain their unit(s) in accordance with a written O&M Plan. This plan must include procedures for operations, equipment inspection, maintenance procedures and corrective measures procedures to address malfunctioning equipment.

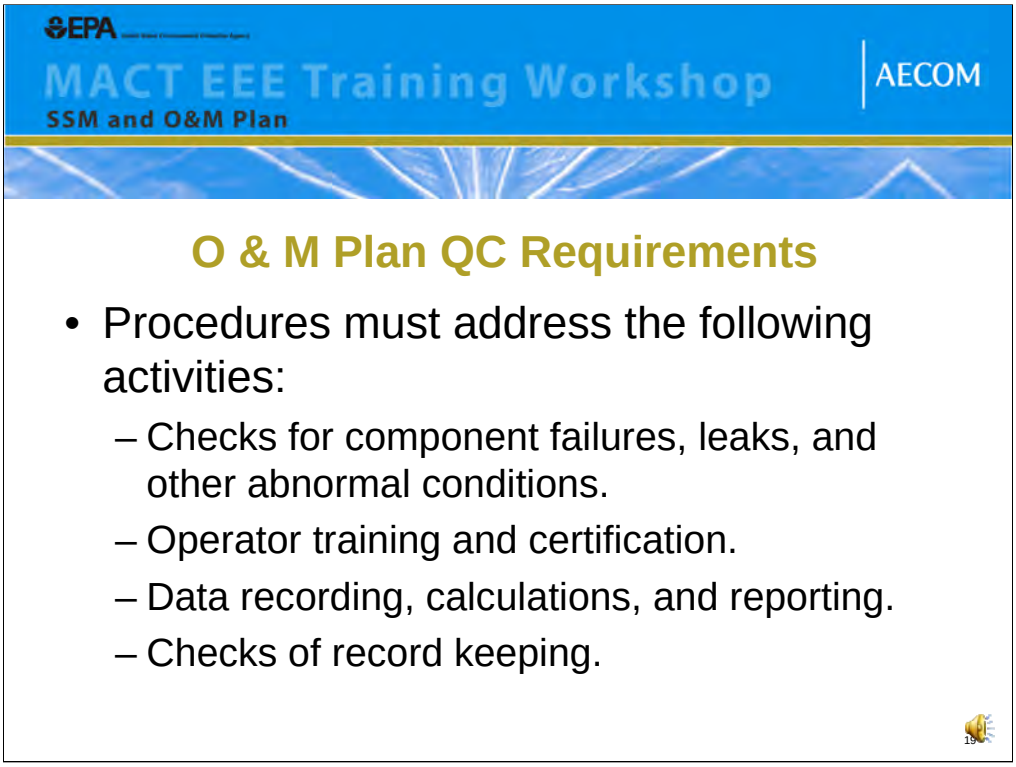
Regulatory Requirements – Continued

- The Plan must prescribe how the HWC and associated equipment will be operated:
  - In a manner consistent with good air pollution control practices
  - To minimize pollutant emissions to at least performance test levels
  - automatic waste feed cutoffs,
  - and malfunctions.
- Plan must be entered into the Operating Record.

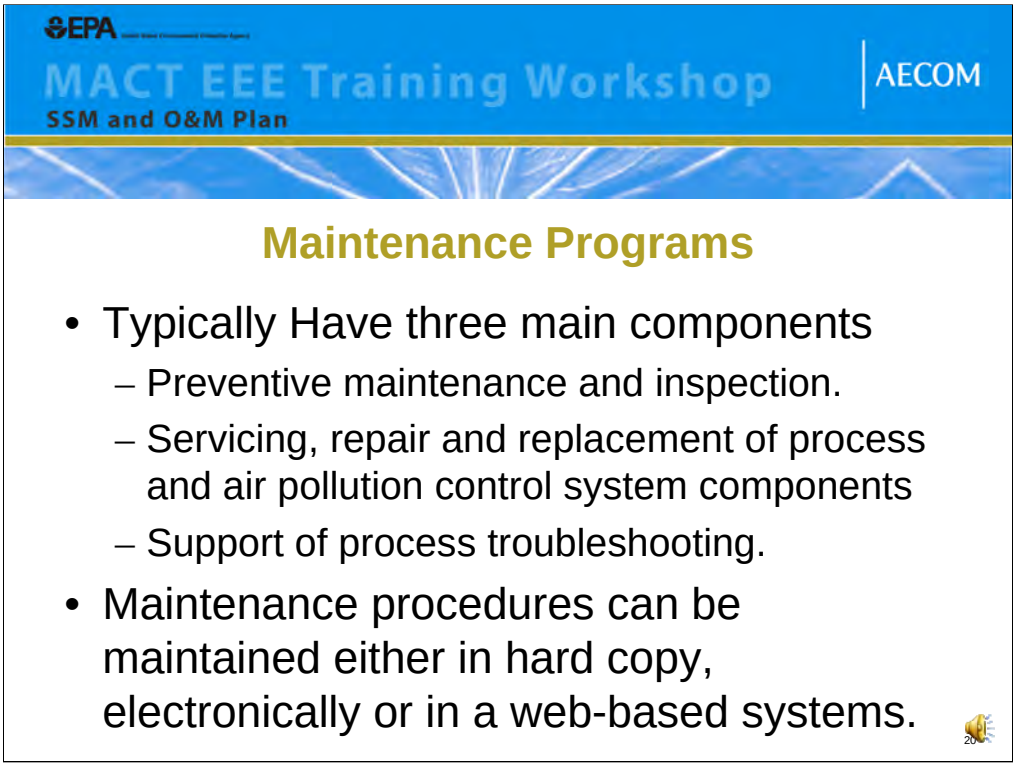
The plan must address how the unit will be operated in a manner consistent with good air pollution control practices and to minimize emissions to CPT levels and minimize AWFCOs and malfunctions. This O&M Plan is also part of the operating Record.



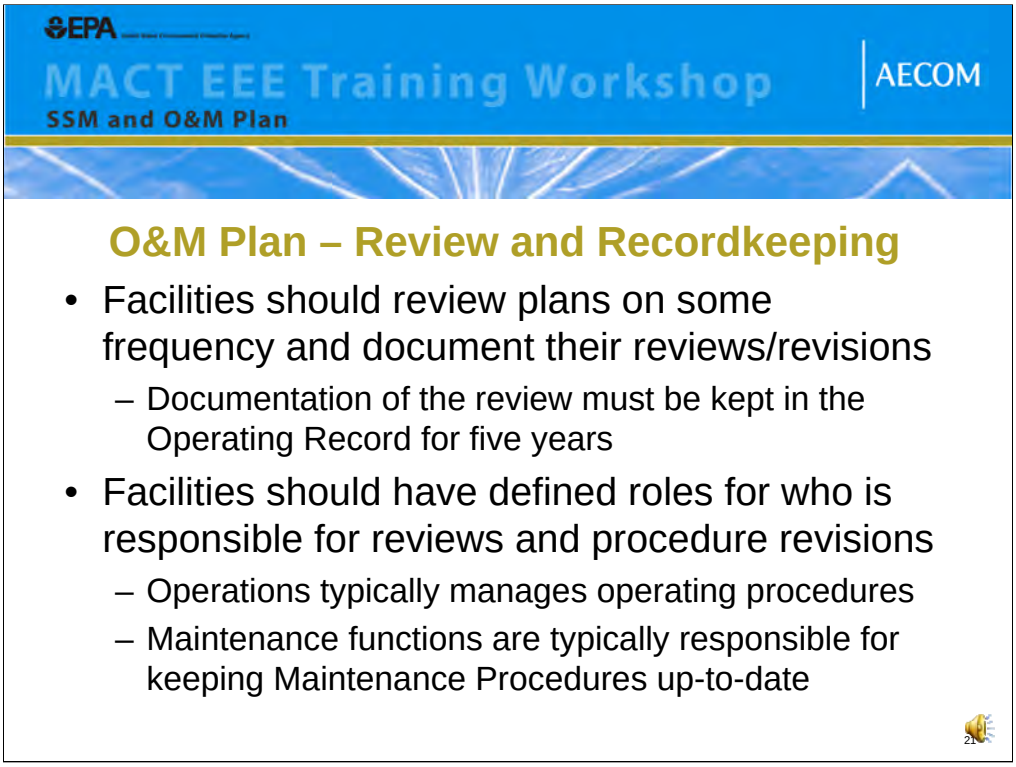
Operating procedures would cover waste feed systems, the combustion system(s) and air pollution control equipment. Typically, facilities maintain separate written plans for their CEM systems. Operating procedures are often maintained by the operations group. Inspection and maintenance procedures are often manage and performed by a separate maintenance group which tracks required preventative maintenance activities, along with following up on any repair issues identified by Operations and then generating the specific work assignments for the maintenance staff to complete. Inspection and maintenance procedures should be maintained for all equipment components of the HWC.



In addition, O&M Plans should be reviewed to make sure they contain the information summarized on this slide.



From a maintenance perspective, there are typically three components to a well organized program. First, there are numerous routine preventative maintenance activities, like lubrication, that must be done according to a regular schedule in order to keep the equipment operating properly. This is often coupled with specific equipment inspection activities that are recommended by the vendor or are developed from experience. Checking pump seals for leaks and bearings for excessive noise or vibration are examples of this type of activity. Then, there is a routine servicing and repair/replacement component, for example when a motor burns out or a section of pipeline needs to be replaced. And finally, operating problems can also need the expertise of maintenance staff to determine what the problem is and correct. Equipment alignment issues, electrical power or control can be examples of this aspect of support. Facilities utilize two primary and different approaches to their maintenance program depending on their size and complexity of that and the relative cost to operations of their maintenance program. Larger facilities tend to utilize computer or web based approaches as their needs are large and manual tracking and management of the maintenance function makes a manual system unworkable. Other smaller facilities may be able to function effectively and support the maintenance work strictly using manual and hard copy methods.



Finally, in maintaining sound operations and maintenance practices, and while there are no specific regulations requiring them to do so, facilities should be reviewing these plans and procedures on a regular basis and maintaining records of revisions to these as well. In addition, there should be clearly defined roles for who manages both the procedures and plans for also for who manages duties and responsibilities and assures the needed work is accomplished.