



Operating and Maintenance Plan Template for Condensate and Mixed Liquid Storage Tanks

Ver. September 10, 2008

The Air Pollution Control Division (Division) developed this Operating and Maintenance Plan (O&M Plan) for condensate and mixed liquid storage tanks permitted at synthetic minor facilities in the State of Colorado. An O&M Plan shall be submitted with the permit application. One O&M Plan may be used for multiple tanks at one facility if each are controlled and monitored in the same manner. If the O&M Plan template is completed correctly, the Division will approve the O&M Plan and a construction permit will be issued with the requirement to follow the O&M Plan as submitted. If the template is not completed correctly, the Division will work with the facility to make corrections. Once a construction permit is issued, the facility operator must comply with the requirements of the O&M Plan upon commencement of operation. Operators are not required to use this template. Independent case specific O&M Plans may be developed and submitted for approval with the permit application. However, the Division encourages the use of this template to expedite the permit application approval process.

Submittal Date: _____

Section 1 - Source Identification

For new permits some of this information (i.e. Facility AIRS ID, Facility Equipment ID, Permit Number, and AIRS Point ID) may not be known at the time of application. Please only fill out those fields that are known and leave the others blank.

Company Name: _____ Facility Location: _____
 Facility Name: _____ Facility AIRS ID (for existing facilities) _____

Units Covered by this O&M form

Facility Equipment ID						
Permit Number						
AIRS Point ID						
Tank Type ^a						
Controlled (Y/N)						

^a Tank types include condensate (C) and mixed liquid (ML)

Section 2 - Maintenance Schedules

Check one of the following:

- Facility shall follow manufacturer recommendations for the operation and maintenance of equipment and control devices. These schedules and practices, as well as any maintenance records showing compliance with these recommendations, shall be made available to the Division upon request.

- Facility shall follow individually developed maintenance practices and schedules for the operation and maintenance of equipment and control devices. These schedules and practices, as well as any maintenance records showing compliance with these recommendations, shall be made available to the division upon request and should be consistent with good air pollution control practices for minimizing emissions as defined in the New Source Performance Standard (NSPS) general conditions.

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Section 3 - Monthly Emission Modeling or Calculations

The following box must be checked for O&M plan to be considered complete.

- The source will calculate emissions based on the methods and emission factors provided in the permit application and approved by the division, as reflected in the construction permit. *Please see the operation and maintenance plan guidance document for further details and examples of emission calculations.*

Section 4 – General Monitoring Requirements

All condensate collection, storage, processing and handling operations, regardless of size, shall be designed, operated and maintained to minimize leakage of volatile organic compounds to the atmosphere to the maximum extent practicable.

Table 1 below details the schedule on which the source must monitor each of the listed operating parameters depending on the requested permitted emissions at the facility. Check the appropriate box based on the facility wide permitted VOC emissions.

Table 1		
Parameter	Monitoring Frequency	
	<input type="checkbox"/> Permitted Facility Emissions ≥ 80 tpy VOC	<input type="checkbox"/> Permitted Facility Emissions < 80 tpy VOC
Condensate Throughput	Monthly	Monthly
Separator Temperature (if present)	Weekly	Monthly
Separator Pressure (if present)	Weekly	Monthly

Table 2 outlines condensate and mixed liquid throughput monitoring methods. The source must chose one primary monitoring method and, optionally, may chose up to two backup methods. Check each box that applies.

Table 2		
Primary	Back-up	Condensate or Mixed Liquid Throughput Monitoring Method
<input type="checkbox"/>		Inlet meter(s)
<input type="checkbox"/>	<input type="checkbox"/>	Tank level measurements which take into account all additions and loadout activity
<input type="checkbox"/>	<input type="checkbox"/>	Sales or haul tickets
<input type="checkbox"/>	<input type="checkbox"/>	Other (to be approved by the division): attach method explanation and sample calculations

Section 5 - Emission Control or Recycling Equipment Monitoring Requirements

If a control device is used then leakage of VOCs to the atmosphere must be minimized as follows:

- Thief hatch seals shall be inspected for integrity annually and replaced as necessary;
- Thief hatch covers shall be weighted and properly seated;
- Pressure relief valves (PRV) shall be inspected annually for proper operation and replaced as necessary;
- PRVs shall be set to release at a pressure that will ensure flashing, working and breathing losses (as applicable) are routed to the control device under normal operating conditions;
- Annual inspections shall be documented with an indication of status, a description of any problems found, and their resolution.

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Table 3 below details the monitoring frequency for control equipment depending on the type of control equipment used and the requested permitted emissions at the facility. Check the appropriate box for "Monitoring Frequency" based on the facility-wide permitted VOC emissions. In addition, indicate storage tank emissions controls by checking the appropriate boxes.

Table 3				
Emissions Control or Recycling Method		Parameter	Monitoring Frequency	
			<input type="checkbox"/> Permitted Facility Emissions \geq 80 tpy VOC	<input type="checkbox"/> Permitted Facility Emissions $<$ 80 tpy VOC
Thermal Oxidizer	<input type="checkbox"/>	Combustion Chamber Temperature^b	Daily	Weekly
Combustor or Flare	<input type="checkbox"/>	Pilot Light Monitoring^c	Daily	Weekly
		Method 22 Readings	Daily	Weekly
Recycled or Closed Loop System (Including Vapor Recovery Units)	<input type="checkbox"/>	To be determined by the source and approved by the division^d		
Re-routed to Reboiler Burner	<input type="checkbox"/>	To be determined by the source and approved by the division^e		

^b **Minimum Thermal Oxidizer Combustion Chamber Temperature**

If the facility uses a thermal oxidizer to control emissions then the minimum combustion chamber temperature shall be: *Select one of the following options from Table 4:*

Table 4		
<input type="checkbox"/>	1400 ° F	
<input type="checkbox"/>	° F	Based on manufacturer specifications. Specifications must be submitted with the permit application and made available to the Division upon request
<input type="checkbox"/>	Based on testing performed. The test data shall be submitted and attached to the O&M Plan	

^c **Pilot Light Monitoring Options**

If the facility uses a Combustor or Flare then the source must indicate the method by which the presence of a pilot light will be monitored in Table 5. One primary method for Pilot Light Monitoring must be checked and, optionally, up to two backup methods may be checked.

Table 5		
Primary	Back-up	Monitoring Method
<input type="checkbox"/>	<input type="checkbox"/>	Visual Inspection
<input type="checkbox"/>	<input type="checkbox"/>	Optical Sensor
<input type="checkbox"/>	<input type="checkbox"/>	Auto-Igniter Signal
<input type="checkbox"/>	<input type="checkbox"/>	Thermocouple

^d **Recycled or Closed Loop System Monitoring Plan**

In the space provided below please provide a brief description of the emission control or recycling system, including an explanation of how the system design ensures that emissions are being routed to the appropriate system at all times, or during all permitted runtime.

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° Reboiler Burner Control Monitoring Plan

In the space provided below please provide a brief description of the emission control system, including an explanation of how the system design ensures that emissions are being held or rerouted when the reboiler is not firing.

Section 6 – Recordkeeping Requirements

The following box must be checked for O&M plan to be considered complete.

- Synthetic minor sources are required to maintain maintenance and monitoring records for the requirements listed in sections 2, 3, 4 and 5 for a period of 2 years. If an applicable Federal NSPS, NESHAP or MACT requires a longer record retention period the operator must comply with the longest record retention requirement.

Section 7 - Additional Notes and O&M Activities

Please use this section to describe any additional notes or operation and maintenance activities.

Note: These templates are intended to address operation and maintenance requirements of the State of Colorado for equipment operated at synthetic minor facilities. If the facility or equipment is subject to other state or federal regulations with duplicative requirements, the source shall follow the most stringent regulatory requirement.