**Flares as Control Equipment – Proposed TEMPO profile 11/15/2017 Bonnie Nelson**

**NSPS Subp. A for tanks controlled by flares**

40 CFR Section 60.18 only applies due to Subp. Kb if the tank is subject to 60.112(c), which requires that a closed vent system and control device are used. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (60.18) of the General Provisions. This helpfile does not include 40 CFR Section 60.18 citations.

Requirements in BLUE are only for CAM. The rest apply to CAM or non-CAM.

|  |  |  |
| --- | --- | --- |
| **CONTROL EQUIPMENT** | **FLARE** | **GUIDANCE** |
| PROFILE: Air/Permitting/Individual Permits/Control Equipment/ | | |
| Existing profile for venting emissions from SI ID to TREA ID (not CAM cite) | | |
| PROFILE: Air/Permitting/Individual Permits/Control Equipment/CAM/Other PSEU/Flare  All text fields except the first. | | |
| **CITATIONS**  **Consent Decree citation:** CAAA of 1990; Title I Condition: 40 CFR pt. 52; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7(A) & (B); Minn. R. 7007.0800, subps. 1 & 2. (10/27/15)  **Bulk Ag Rule (requirement to vent to controls):** Minn. R. 7011.1015  **BACT:** Title I Condition:40 CFR 52.21(j)(BACT) & Minn. R. 7007.3000  **PSD Modeling:** Title I Condition:40 CFR 52.21(k)(PSD model) & Minn. R. 7007.3000 [Would this citation be required on flexibility provisions? Currently am not including.]  **Title V Modeling:** Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M), Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subps. 1-2, Minn. R. 7009.0010-7009.0080, Minn. Stat. 116.07, subd. 4a, Minn. Stat. 116.07, subd. 9 [Would this citation be required on flexibility provisions? Currently am not including.}  **Avoid PSD:** Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) & Minn. R. 7007.3000  **Avoid Part 70:** Avoid major source under 40 CFR 70.2 & Minn. R. 7007.0200  **Avoid NESHAPs:** Title I Condition: Avoid major source under 40 CFR 63.2 and Minn. R. 7011.7000 (Note: NESHAP, subp. A delegation) | | |
| Avoid PSD  Avoid Part 70  Avoid NESHAPs  BACT  Consent Decree  PSD model/Title V model  Minn. R. 7007.0800, subp. 14 | FLEXIBILITY:  The Permittee must vent emissions from any emission unit that vents to STRU # to a flare that meets the requirements of TREA #, whenever any emission unit that vents to STRU # operates, and must operate and maintain a flare that meets the requirements of TREA # at all times that any emissions unit that vents to STRU # operates. The Permittee shall document periods of non-operation of the control equipment.  NO EQUI FLEXIBILITY:  The Permittee must vent emissions from EQUI # to a flare that meets the requirements of TREA #, whenever EQUI # operates, and must operate and maintain a flare that meets the requirements of TREA # at all times that EQUI # operates. The Permittee shall document periods of non-operation of the control equipment. | *Include for any EQUI that are controlled by TREA. Need to have this language on the emitting-unit side, as well as at the TREA.*  *The first part of the language is purposely vague to include emissions from new units.* |
| Not CAM  Avoid PSD  Avoid Part 70  BACT  Consent Decree | OPTION 1 – Limit Screen  The Permittee shall operate and maintain the flare such that it achieves an overall control efficiency for Volatile Organic Compounds >= 98.0 percent control efficiency.] | Include for flares where the control equipment is used to determine potential to emit and CAM for Other PSEUs applies.  This requirement is standard for controls that are required by a permit (not CAM-specific). |
| Not CAM  Avoid PSD  Avoid Part 70  BACT  Consent Decree | OPTION 2 – Limit Screen  The Permittee shall operate and maintain the flare such that it achieves an overall control efficiency for Volatile Organic Compounds >= 98.0 percent destruction efficiency. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000; Title I Condition: Avoid major source under 40 CFR 63.2 and Minn. R. 7011.7000] | Include for flares where the control equipment is used to determine potential to emit and CAM for Other PSEUs applies.  This requirement is standard for controls that are required by a permit (not CAM-specific).  See AP-24 p. 5.2-6. Note: We haven’t been applying this concept to facilities in the past, we just granted 100% capture. |
| OPTION 2 – Limit Screen  The Permittee shall operate and maintain the flare such that it achieves a capture efficiency for Volatile Organic Compounds >= 70/98.7/99.2 percent capture efficiency. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000; Title I Condition: Avoid major source under 40 CFR 63.2 and Minn. R. 7011.7000]  (*perhaps could come up with a weighted average i.e. 90% that allows for this*) |
|  |  |  |
| Avoid PSD  Avoid Part 70  BACT  Consent Decree  40 CFR 64.3 and Minn. R. 7017.0200 or  Minn. R. 7007.0800, subp. 2 | Opacity: not greater than 0 percent opacity using a 6-minute average except for periods not to exceed 5 minutes in any 2 consecutive hours. [Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000; Title I Condition: Avoid major source under 40 CFR 63.2 and Minn. R. 7011.7000, Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subp. 2] | Edit the citation as needed but must include CAM part of citation.  If controls required by Consent Decree cite CAAA of 1990, this is essentially in lieu of a performance test. |
| Minn. R. 7007.0800, subp.2 | Allowable Fuel: Liquid propane or natural gas <Natural gas only.> for supplemental fuel. |  |
| 40 CFR 64.3 and Minn. R. 7017.0200,  Avoid PSD  Avoid NESHAP  Avoid Part 70  BACT  Consent Decree  Minn. R. 7007.0800, subps. 4 & 14 | The flare must be operated with a flame present at all times. | Edit the citation as needed but must include CAM part of citation.  If controls required by Consent Decree cite CAAA of 1990… |
| 40 CFR 64.7(b) and Minn. R. 7017.0200  Minn. R. 7007.0800, subps. 4 & 14 | Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for recording the presence of a flame as required by this permit. The monitoring equipment must be installed, in use, and properly maintained during operation of the monitored flare. This includes, but is not limited to, maintaining necessary parts for routine repairs. | Edit the citation as needed but must include CAM part of citation. |
| 40 CFR 64.3 and Minn. R. 7017.0200  Minn. R. 7007.0800, subps. 2 & 14 | The flare shall only be used when the net heating value of the gas being combusted is greater than or equal to 300 Btu/scf if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 200 Btu/scf or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f)(3). | Edit the citation as needed but must include CAM part of citation.  If controls required by Consent Decree cite CAAA of 1990… |
| 40 CFR 64.3 and Minn. R. 7017.0200  Minn. R. subps. 2, 4 & 14  Minn. R. 7017.2020, subp. 1 | Visible Emissions: The Permittee must check the loadout flare for any visible emissions once each 24-hour period during daylight hours. The Permittee shall determine the presence of visible emissions using Reference Method 22 when requested by the Commissioner. | Edit the citation as needed but must include CAM part of citation. A record must be taken once every 24-hour period to satisfy CAM, whether or not emissions are being vented to the flare. |
| 40 CFR 64.3 and Minn. R. 7017.0200  Minn. R. 7007.0800, subps. 4, 5 & 14 | Annual Inspection: At least once annually, or more frequently as required by manufacturer’s specifications, the Permittee shall inspect the control equipment components. The Permittee shall calibrate or replace the thermocouple or other measurement device annually, or calibrate at the frequency stated in the manufacturer’s specifications. The Permittee shall maintain a written record of this inspection and calibration. | Edit the citation as needed but must include CAM part of citation. |
| 40 CFR 64.7 (b) and Minn. R. 7017.0200;  Minn. R. 7007.0800, subp. 14 | The Permittee shall operate and maintain the flare in conformance with its design and in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. | This requirement is standard for controls that are required by a permit.  Edit the citation as needed.  If controls required by Consent Decree cite CAAA of 1990… |
|  |  |  |
| 40 CFR 64.7(c) and Minn. R. 7017.0200 | Continued operation. Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities, the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. | Edit the citation as needed but must include CAM part of citation. |
| 40 CFR 64.7(d)(1); Minn. R. 7017.0200; Minn. R. 7007.0800, subp. 14 | Response to excursions. Upon detecting an excursion, the Permittee shall restore operation of the flare to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action, or any necessary follow-up actions to return operation to within the designated condition, or below the applicable emission limitation or standard, as applicable. | Edit the citation as needed but must include CAM part of citation.  For non-CAM flare, edit out the words about excursions. |
| 40 CFR 64.7(d) and Minn. R. 7017.0200; Minn. R. 7007.0800, subps. 4, 5, & 14 | Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:  - visible emissions are observed;  - the presence of a flame is not detected; or  - the flare or any of its components are found during the inspections to need repair.  Corrective actions shall return the flame presence, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the flare. The Permittee shall keep a record of the type and date of any corrective action taken for each flare. | Edit the citation as needed but must include CAM part of citation. |
| 40 CFR 64.7(d)(2); Minn. R. 7017.0200; Minn. R. 7007.0800, subp. 14 | Determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process. | OPTIONAL CAM LANGUAGE |
| 40 CFR 64.7(e) and Minn. R. 7017.0200 | Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring change. |  |
| 40 CFR 64.9(a)(2) and Minn. R. 7017.0200 | As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report and/or the Notification of Deviations Endangering Human Health and the Environment, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR 64.9.  1. Summary information on the number, duration, and cause of excursions and the corrective action taken; and  2. Summary information on the number, duration, and cause for monitor downtime incidents. |  |
| 40 CFR 64.9(b) and Minn. R. 7017.0200  Title I Condition: Avoid major source under 40 CFR 52.21(b)(1)(i) and Minn. R. 7007.3000; Title I Condition: Avoid major source under 40 CFR 63.2 and Minn. R. 7011.7000  Minn. R. 7007.0800, subps. 5 & 14 | Recordkeeping: The Permittee shall maintain written records of the presence of the flame, days of operation of the flare, any malfunction of the flare, temperature measurement performance evaluations, calibration checks, adjustments and maintenance, inspections and all other information in permanent form, suitable for inspection for at least five years following the date of such measurements, maintenance, and records. | Edit the citation as needed but must include CAM part of citation.  If controls required by Consent Decree cite CAAA of 1990… |
| **QIP Plan – Optional CAM language** | | |
| 40 CFR 64.8(a) and Minn. R. 7017.0200 | Quality Improvement Plan (QIP) requirements. If there is an accumulation of <9> or more excursions during the six-month reporting period, the Permittee must develop and implement a QIP in accordance with 40 CFR 64.8(b). The QIP must be available for inspection. | Optional CAM-specific requirement. Goes in permits where Permittee chooses to specify QIP triggers.  Consistent with §64.6(c)(3), the part 70 or 71 permit may specify an appropriate threshold, such as an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP. |
| 40 CFR 64.8(c); Minn. R. 7017.0200 | If a QIP is required, the Permittee shall develop and implement the QIP as expeditiously as practicable and shall notify the MPCA if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined. | Optional CAM-specific requirement. Goes in permits where Permittee chooses to specify QIP triggers. |
| 40 CFR 64.8(d); Minn. R. 7017.0200 | Following implementation of a QIP, the Administrator or the MCPA may require that the Permittee make reasonable changes to the QIP if the QIP is found to have: (1) Failed to address the cause of the control device performance problems; or (2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions Following implementation of a QIP, the Administrator or the MCPA may require that the Permittee make reasonable changes to the QIP if the QIP is found to have: (1) Failed to address the cause of the control device performance problems; or (2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions | Optional CAM-specific requirement. Goes in permits where Permittee chooses to specify QIP triggers. |
| 40 CFR 64.8(d); Minn. R. 7017.0200 | Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply. | Optional CAM-specific requirement. Goes in permits where Permittee chooses to specify QIP triggers. |
|  |  |  |