

15A NCAC 02D .0545 (RULE VOID) TREATMENT OF MALFUNCTION EVENTS AND WORK PRACTICES FOR START-UP AND SHUT-DOWN OPERATIONS

(a) Applicability. In the event that United States Environmental Protection Agency's regulation, State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA's SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction, published in the Code of Federal Regulations (CFR) at 40 CFR 52 on June 12, 2015, is:

- (1) declared or adjudged to be invalid or unconstitutional or stayed by the United States Court of Appeals for the Fourth Circuit, by the District of Columbia Circuit, or by the United States Supreme Court; or
- (2) withdrawn, repealed, revoked, or otherwise rendered of no force and effect by the United States Environmental Protection Agency, Congress, or Presidential Executive Order;

such action shall render this Rule as invalid, void, stayed, or otherwise without force and effect upon the date such action becomes final and effective. At the time of such action, sources that were subject to this Rule shall be subject to Rule .0535 of this Subchapter. This Rule shall not apply to sources to which Rule .0524, .1110, or .1111 of this Subchapter applies.

(b) For the purposes of this Rule, the following definitions apply:

- (1) "excess emissions" means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of this Subchapter; by a permit condition; or that exceeds an emission limit established in a permit issued pursuant to 15A NCAC 02Q .0700;
- (2) "malfunction" means any unavoidable failure of air pollution control equipment, process equipment, or process to operate in a normal and usual manner. Failures caused entirely or in part by poor maintenance, careless operations or any other upset condition within the control of the emission source shall not be considered a malfunction.
- (3) "start-up" means the initial commencement of operation or subsequent commencement of operation of any source that has shut-down or ceased operation for a period sufficient to cause temperature, pressure, process, chemical, or a pollution control device imbalance that would result in excess emissions; and
- (4) "shut-down" means the cessation of the operation of any source for any purpose.

(c) Malfunctions. All facilities subject to this Rule shall:

- (1) comply with the otherwise applicable emissions limits; or
- (2) comply with the source specific malfunction work practice standard permit condition described in Paragraph (d) of this Rule.

(d) Source Specific Malfunction Work Practice Standard Permit Condition.

- (1) A facility may request a source specific malfunction work practice standard to be included in the state and federal enforceable section of its air permit, after review by EPA and the public.
- (2) The source specific malfunction work practice standard shall minimize emissions during the malfunction event and require the malfunction duration to be minimized.
- (3) Subparagraphs (e)(1) and (e)(5) of this Rule shall be addressed in the source specific malfunction work practice standard. Any facility requesting a source specific malfunction work practice standard shall meet the requirements of Subparagraphs (f)(1) through (f)(3) of this Rule.
- (4) Requests shall be made through the application for a permit, permit modification, or permit renewal pursuant to the permit application requirements in 15A NCAC 02Q .0300 or .0500. The public notice requirements specified in 15A NCAC 02Q .0306 and .0307 shall be followed for all proposed work practice standards in non-Title V permits. Public notice requirements specified in 15A NCAC 02Q .0521 shall be followed for all proposed work practice standards in Title V permits.
- (5) At all times, the source shall be operated in a manner consistent with good practice for minimizing emissions and the owner or operator shall use their best efforts regarding planning, design, and operating procedures. The owner or operator's actions during malfunction periods shall be documented by properly signed, contemporaneous operating logs or other relevant evidence.
- (6) Failure to implement or follow the Source Specific Malfunction Work Practice Standard Permit Condition shall be a violation of this Paragraph.

- (7) Facilities that follow a Source Specific Malfunction Work Practice Standard Permit Condition during a malfunction that has been addressed in the Source Specific Malfunction Work Practice Standard Permit Condition shall be deemed in compliance.

(e) The Director shall determine the appropriate enforcement response for excess emissions due to a malfunction. The Director shall consider the following:

- (1) The air cleaning device, process equipment, or process has been maintained and operated, to the maximum extent practicable, consistent with good practice for minimizing emissions;
- (2) Repairs have been made expeditiously when the emission limits have been exceeded;
- (3) The amount and duration of the excess emissions, including any bypass, have been minimized to the maximum extent practicable;
- (4) All practical steps have been taken to minimize the impact of the excess emissions on ambient air quality;
- (5) The excess emissions are not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- (6) The requirements of Paragraph (h) of this Rule have been met;
- (7) If the source is required to have a malfunction abatement plan, the source has followed that plan; and
- (8) any other pertinent information.

All malfunctions shall be repaired as expeditiously as practicable. The facility shall maintain records of the time that a source operates when it or its air pollution control equipment is malfunctioning or otherwise has excess emissions.

(f) All electric utility boiler units shall have a malfunction abatement plan approved by the Director as satisfying the requirements of Subparagraphs (f)(1) through (f)(3) of this Rule. In addition, the Director may require any other source to have a malfunction abatement plan approved by the Director as satisfying the requirements of Subparagraphs (f)(1) through (f)(3) of this Rule. If the Director requires a malfunction abatement plan for a source other than an electric utility boiler, the owner or operator of that source shall submit a malfunction abatement plan within 60 days after receipt of the Director's request. The malfunction abatement plans of electric utility boiler units and of other sources required to have malfunction abatement plans shall be implemented at all times. The objectives of the malfunction abatement plan are to prevent, detect, and correct malfunctions that may result in excess emissions. A malfunction abatement plan shall contain:

- (1) a preventive maintenance program including:
 - (A) the identification of individuals or positions responsible for inspecting, maintaining, and repairing air cleaning devices;
 - (B) a description of the items or conditions that will be inspected and maintained;
 - (C) the frequency of the inspection, maintenance services, and repairs; and
 - (D) an identification and quantities of the replacement parts that shall be maintained in inventory for quick replacement;
- (2) an identification of the source and air cleaning operating variables and outlet variables that may be monitored to detect a malfunction; the normal operating range of these variables and a description of the method of monitoring and of informing operating personnel of any malfunctions; and
- (3) a description of the corrective procedures that the owner or operator will take in case of a malfunction or failure to achieve compliance with the applicable rule as expeditiously as practicable. The owner or operator shall maintain logs to show that the operation and maintenance parts of the malfunction abatement plan are implemented.

(g) The owner or operator of any source required by the Director to have a malfunction abatement plan shall submit a malfunction abatement plan to the Director within 60 days after it has been required by the Director. The malfunction abatement plan and any amendment to it shall be reviewed by the Director. If the plan carries out the objectives described by Paragraph (f) of this Rule, the Director shall approve it. If the plan does not carry out the objectives described by Paragraph (f) of this Rule, the Director shall disapprove the plan. The owner or operator shall submit an amendment to the plan to satisfy the plan requirements within 30 days of receipt of the Director's notification of disapproval. Any owner or operator of any source having an approved malfunction abatement plan shall submit to the Director for approval amendments reflecting changes in any element of the malfunction abatement plan required by Paragraph (f) of this Rule or amendments when requested by the Director. The malfunction abatement plan and amendments to it shall be implemented within 90 days upon receipt of written notice of approval.

(h) The owner or operator of a source of excess emissions that last for more than four hours and that results from a malfunction shall:

- (1) notify the Director of any such occurrence by 9:00 a.m. Eastern time of the Division's next business day of becoming aware of the occurrence and describe:
 - (A) name and location of the facility;
 - (B) the nature and cause of the malfunction;
 - (C) the time when the malfunction is first observed;
 - (D) the expected duration; and
 - (E) an estimated rate of emissions;
- (2) notify the Director by 9:00 a.m. Eastern time of the Division's next business day when the corrective measures have been accomplished;
- (3) submit to the Director, within 15 days after the notification in Subparagraph (h)(1) of this Rule, a written report that includes:
 - (A) name and location of the facility;
 - (B) identification or description of the processes and control devices involved in the malfunction;
 - (C) the cause and nature of the event;
 - (D) time and duration of the violation or the expected duration of the excess emission if the malfunction has not been fixed;
 - (E) estimated quantity of pollutant emitted;
 - (F) steps taken to control the emissions and to prevent recurrences and if the malfunction has not been fixed, steps planned to be taken; and
 - (G) any other pertinent information requested by the Director.

After the malfunction has been corrected, the Director may require the owner or operator of the source to test the source in accordance with Section .2600 of this Subchapter to demonstrate compliance.

(i) Start-up and Shut-down: During periods of start-up and shut-down, sources at facilities subject to this Rule shall comply with any one of the following:

- (1) the applicable SIP emission limit in the 15A NCAC 02D rules, or a permit limit established in a permit issued pursuant to 15A NCAC 02Q .0700;
- (2) the applicable work practice standards in Subparagraphs (j)(1) through (j)(13) of this Rule;
- (3) work practice standards currently in effect for federal rules promulgated since 2009 that address compliance during start-up and shut-down operations for equipment that would be subject to the federal rule except for rule applicability exemptions; or
- (4) source specific start-up and shut-down work practice standard permit conditions described in Paragraph (k) of this Rule.

Excess emissions during start-up and shut-down shall be considered a violation of the applicable rule if the owner or operator cannot demonstrate that the work practice standards in Subparagraphs (i)(2), (i)(3), or (i)(4) of this Rule were followed. Facilities may comply with Subparagraphs (i)(1) or (i)(2) of this Rule during start-up and shut-down without a specific permit condition. Facilities that choose to comply with Subparagraph (i)(3) of this Rule during start-up and shut-down shall apply for and receive a permit condition that indicates the specific federal work practice standard that shall be followed. Facilities that choose to comply with Subparagraph (i)(4) of this Rule during start-up and shut-down shall apply for and receive a permit condition described in Paragraph (k) of this Rule.

(j) Generally Available Work Practices for Start-Up and Shut-Down Operations. The owner or operator shall, to the extent practicable, operate the source and any associated air pollution control equipment or monitoring equipment in a manner consistent with best practicable air pollution control practices to minimize emissions during start-up and shut-down. The following generally available work practice standards shall be followed:

- (1) Periods of start-up and shut-down shall be documented in a permanent form suitable for inspection and submission to the Division. Documentation of start-ups and shut-downs shall include specific identification of each period of start-up or shut-down where a work practice standard is used and information required to demonstrate compliance with the applicable work practices. Start-up and shut-down operations shall occur as expeditiously as possible while minimizing emissions.
- (2) Boilers and other combustion sources. All combustion sources shall commence operations while firing on the cleanest permitted fuel, to the extent practicable. The source shall minimize the start-up and shut-down periods to the extent practicable.
 - (A) For sources for which the manufacturer has established recommended procedures for start-ups and shut-downs, the source shall follow the manufacturer's recommended procedures.

- (B) For sources for which there is no manufacturer-recommended procedures for start-ups and shut-downs, the source shall follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available.
- (3) Baghouses shall be operated upon start-up of emission unit, or when baghouse temperature exceeds the dew point, whichever occurs later, or as specified by manufacturer.
 - (4) Cyclones shall be operated at all times, including start-up and shut-down of the emission unit.
 - (5) Electrostatic precipitators (ESP) shall be operated upon start-up of emission unit, or when effluent temperature exceeds the dew point, whichever occurs later, or as specified by manufacturer.
 - (6) Selective catalytic reduction (SCR) units shall be operated if catalyst bed temperature is greater than 400°F, or as specified by manufacturer.
 - (7) Non-selective catalytic reduction (NSCR) units shall be operated when the effluent temperature is between 700°F and 1500°F, or as specified by manufacturer.
 - (8) Scrubbers shall be operated at all times from initialization of start-up to completion of shut-down.
 - (9) Carbon adsorption shall be operated at all times from initialization of start-up to completion of shut-down.
 - (10) Biofilters shall be operated at all times from initialization of start-up to completion of shut-down.
 - (11) Sorbent injection shall be operated at all times the gas stream temperature is greater than 300°F, or as specified by manufacturer.
 - (12) Regenerative Thermal Oxidizers (RTO), thermal, and catalytic oxidizers shall be operated at all times from initialization of start-up to completion of shut-down.
 - (13) Safety and fire protection protocols shall be followed during start-up and shut-down of all sources.
- (k) Source Specific Start-Up and Shut-Down Work Practice Standard Permit Condition. A facility may request a source specific start-up and shut-down work practice standard be included in the state and federal enforceable section of their air permit, after review by EPA and the public. Such requests shall be made through the application for a permit, permit modification, or permit renewal pursuant to the permit application requirements in 15A NCAC 02Q .0300 or .0500. The public notice requirements specified in 15A NCAC 02Q .0306 and .0307 shall be followed for all proposed work practice standards in non-Title V permits. Public notice requirements specified in 15A NCAC 02Q .0521 shall be followed for all proposed work practice standards in Title V permits. Requests for work practice standards for periods of start-up and shut-down shall include the following considerations:
- (1) the work practice standard is specific to a source and the associated control strategy;
 - (2) demonstration that the use of the control strategy for the source is technically infeasible during start-up or shut-down periods;
 - (3) the work practice standard requires that the frequency and duration of operation in start-up or shut-down mode are minimized to the greatest extent practicable;
 - (4) at all times, the source shall be operated in a manner consistent with good practice for minimizing emissions and the source uses best efforts regarding planning, design, and operating procedures; and
 - (5) the owner or operator's actions during start-up and shut-down periods shall be documented by properly signed, contemporaneous operating logs or other relevant evidence.

Any source without a start-up and shut-down work practice standard permit condition shall be required to comply with any applicable emission limit. Facilities that follow a source specific start-up and shut-down work practice standard permit condition during start-up and shut-down shall be deemed in compliance.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(4); 143-215.107(a)(5); Adoption approved by RRC October 20, 2016 with a delayed effective date. Effective date delayed by Codifier upon May 15, 2018 request from the Environmental Management Commission. Rendered void May 28, 2020 by final action of EPA withdrawing SIP Call for North Carolina, 85 Fed. Reg. 23700 (April 28, 2020) and the State's withdrawal of its SIP submittal to EPA on August 25, 2022.