TITLE 326 AIR POLLUTION CONTROL DIVISION

Proposed Rule
LSA Document #12-392

DIGEST

Adds 326 IAC 5-1-8 concerning temporary alternative opacity limitations (TAOL) for the AEP Rockport Generating Station. Effective 30 days after filing with the Publisher.

HISTORY

First Notice of Comment Period: July 11, 2012, Indiana Register (DIN: 20120711-IR-326120392FNA).
Second Notice of Comment Period: February 12, 2014, Indiana Register (DIN: 20140212-IR-326120392SNA).
Notice of First Hearing: February 12, 2014, Indiana Register (DIN: 20140212-IR-326120392PHA).
Change in Notice of Public Hearing: May 7, 2014, Indiana Register (DIN: 20140507-IR-326120392CHA).
Date of First Hearing: June 11, 2014.

PUBLIC COMMENTS UNDER IC 13-14-9-4.5

IC 13-14-9-4.5 states that a board may not adopt a rule under IC 13-14-9 that is substantively different from the draft rule published under IC 13-14-9-4, until the board has conducted a third comment period that is at least 21 days long. Because this proposed rule is not substantively different from the draft rule published on February 12, 2014 at DIN: 20140212-IR-326120392SNA, the Indiana Department of Environmental Management (IDEM) is not requesting additional comment on this proposed rule.

SUMMARY/RESPONSE TO COMMENTS FROM THE SECOND COMMENT PERIOD

The Indiana Department of Environmental Management (IDEM) requested public comment from February 12, 2014, through March 14, 2014, on IDEM's draft rule language. IDEM received comments from the following parties:

Indiana Michigan Power Company, dba American Electric Power (AEP)

Following is a summary of the comments received and IDEM's responses thereto:

Comment: Since the time of the issuance of the initial Title V permit, the opacity provision containing the temporary opacity limit (TAOL) has been under appeal and IMPA has been working with IDEM to develop permit language acceptable to both parties as part of the settlement of the larger permit appeal. AEP requests that IDEM update the proposed rule language as follows:

"(1) When building a new fire in a boiler, opacity may exceed the applicable limitation established in 326 IAC 5-1-2 for a period not to exceed a total of **two (2)** ~~four (4)~~ hours **(twenty (20)** ~~forty (40)~~ six (6)-minute averaging periods) during the start-up period, or until the flue gas temperature reaches two hundred fifty (250) degrees Fahrenheit at the inlet of the electrostatic precipitator, whichever occurs first.

(2) When shutting down a boiler, opacity may exceed the applicable limitation established in 326 IAC 5-1-2 for a period not to exceed a total of one **and half** (1**.5**) hour **(fifteen (15)** ~~ten (10)~~ six (6)-minute averaging periods) during the shutdown period.

(3) Operation of the electrostatic precipitator is not required during these times." (AEP)

Response: The proposed time frames requested are the same as the draft rule language and therefore have not been amended for preliminary adoption. IDEM does not agree that item (3) should be included and has not made the change as requested. It is not necessary since the rule does not require operation of the ESP, therefore the exemption is not needed. The ESP language is included in the Title V operating permit. IDEM is also proposing to the retain the following language as proposed in the draft rule as it is necessary for state implementation plan (SIP) approval by the United States Environmental Protection Agency:

(2) When shutting down a boiler, opacity may exceed the applicable limitation established in section 2 of this rule once the flue gas temperature has dropped below two hundred fifty (250) degrees Fahrenheit at the inlet of the electrostatic precipitators for a period not to exceed a total of one and one half (1.5) hours (fifteen (15) six (6)-minute averaging periods) during the shutdown period.

SUMMARY/RESPONSE TO COMMENTS RECEIVED AT THE FIRST PUBLIC HEARING

On June 11, 2014, the Environmental Rules Board (board) conducted the first public hearing/board meeting concerning the development of new rule language at 326 IAC 5-1-8. Comments were made by the following parties:

Jodi Perras, on behalf of the Sierra Club Hoosier Chapter (SC)

Following is a summary of the comments received and IDEM's responses thereto:

Comment: Indiana Michigan Power – Rockport Plant, d/b/a American Electric Power (AEP) must

demonstrate that Rockport cannot meet the opacity limits during startup and shutdown, and it has not provided this demonstration. AEP does not explain why they cannot take other steps to control opacity and particulate matter, for example, improving maintenance, upgrading the electrostatic precipitators (ESP), or installing additional control equipment. (SC)

Response: Boilers that use fuel oil as a startup fuel and have an ESP as a control device have trouble meeting an opacity limit until the exhaust gases have reached a certain temperature. The ESP cannot be safely engaged until the control device has reached an appropriate temperature. AEP has indicated that they operate the ESP as much as they can to limit the occurrence of exceedances of the opacity limit. Installing additional controls is a major investment and is not warranted in this situation. Adding a baghouse to replace the ESP is the type of project that is required in federal consent decrees or federal rulemaking that affects all power plants. The recent Mercury and Air Toxics Standards (referred to as MATS or Utility NESHAP) will require additional controls and additional particulate matter monitoring for many power plants. Upgrading the ESP does not address the safety issue concerns.

Over the last five years (2009 – 2013), AEP Rockport has a compliance rate of 99.81% based on the Continuous Opacity Monitoring System (COMS) data. This is above the average compliance rate for other sources measuring opacity using a COMS. All opacity exceedances including those attributable to startup and shutdown occurrences are reported to the department as required by AEP Rockport's Title V permit. Only about one third of the reported exceedances were due to startup/shutdown events. IDEM evaluates each reported exceedance and takes the appropriate enforcement action as necessary. The department has determined that none of the opacity exceedances were significant enough to warrant formal enforcement action, but has issued violation letters to address the deviations.

For comparable sources, IDEM has already addressed this issue; 326 IAC 5-1-3 was amended in 1998 by adding a new subsection (e) to allow sources that had existing startup and shutdown conditions in their construction or operating permits to be exempt from the opacity limit until the exhaust gases achieved a temperature of 250 degrees Fahrenheit at the inlet of the baghouses or ESP. U.S. EPA approved this exemption provision, along with a process for other sources to obtain TAOLs, into Indiana's state implementation plan (SIP) on July 16, 2002. U.S. EPA approved the limited exemption from opacity limits based on a modeling analysis assessing the worst-case impact showing that the exemption would not jeopardize continued attainment of the particulate matter air quality standard (PM_{10}). IDEM did not model all power plants, but used an example power plant to reflect the worst case dispersion scenario (short stacks). AEP Rockport's units did not have preexisting opacity exemptions in their permits at that time and are not part of the limited exemption in 326 IAC 5-1-3(e). Therefore, AEP Rockport has requested a TAOL for their facility.

Comment: AEP must demonstrate that the temporary alternative opacity limits will not interfere with the maintenance of the National Ambient Air Quality Standards (NAAQS). IDEM's modeling to evaluate impact of this rule on the 24-hour $PM_{2.5}$ NAAQS assumes there is no $PM_{2.5}$ in the air from other sources. (SC)

Response: IDEM does not agree that background concentrations need to be considered because of the nature of the scenario modeled. While the TAOL is limited to just startup and shutdown the modeling is conservative because emissions were assumed to occur continuously. AEP's modeling analysis estimated PM_{10} emission rates to examine the various operating conditions the unit undergoes during startup. In the early stages the burners are firing oil with the amount of coal being burned steadily increasing. The highest emissions are estimated to occur when the unit has transitioned from oil to coal and under partial load. At this time the ESP is partially energized and AEP assumes an approximate efficiency of 60%. A previous inspector indicated that the ESP is operated at 75% of capability prior to any fire. IDEM's conservative $PM_{2.5}$ modeling analysis assumed all PM_{10} emissions are $PM_{2.5}$ and modeled the highest emission estimate for the startup cycle, assuming it would occur continuously.

U.S. EPA has previously reviewed the modeling and has indicated that the modeling was acceptable. Spencer County is classified as attainment of the particulate matter NAAQS. IDEM is considering running another modeling scenario that takes into account the intermittent nature of these emissions that would include the background concentration. U.S. EPA will be consulted before IDEM runs additional modeling scenarios.

Comment: The temporary alternative opacity limit is too broad to be justifiable. Why is a flat-out exemption needed and justifiable as opposed to a higher opacity limit? Why is it a two-hour exemption? (SC)

Response: There is no opacity limit as part of the TAOL because the structure of the TAOL is time and temperature based. The opacity reading varies during startup and shutdown and the exemption is only applicable during a narrow operating scenario. If an opacity limit was selected that could account for all opacity readings that could happen during this operating scenario, then it would serve little purpose because it would have to be a very high opacity limit. IDEM identified 2 hours as a limit for the exemption based on past COMS data. In the initial Title V permit, IDEM had used four hours for start-up and has further ratcheted this number down as additional COMS data and duration of exceedances during startup was evaluated over the years. In 326 IAC 5-3-1(e)(2)(A)(i), the TAOL for equipment with baghouses or ESPs applies until the exhaust gas has achieved a temperature of 250 degrees Fahrenheit with no time limit. The proposed TAOL for AEP Rockport provides additional restrictions on time. The proposed TAOL is equivalent (or more stringent) than the TAOLs for other

Indiana power plants.

Comment: The documents AEP submitted in support of its request are from 2001 and 2004. They should not be relied upon to demonstrate a need for a temporary alternative opacity limit at Rockport ten years later. (SC)

Response: While the source requested a TAOL in 2001 and 2004 more recent data was evaluated for the rulemaking. IDEM has evaluated COMS data from 2007 to 2013 to confirm that the proposed TAOL in the rulemaking is currently appropriate. IDEM has also conducted additional modeling using updated modeling software.

326 IAC 5-1-8

SECTION 1. 326 IAC 5-1-8 IS ADDED TO READ AS FOLLOWS:

326 IAC 5-1-8 Site-specific temporary alternative opacity limitations

Authority: IC 13-14-8; IC 13-17
Affected: IC 13-11

Sec. 8. In accordance with section 3(d) of this rule, Indiana Michigan Power Company (dba American Electric Power) Rockport Units #1 and #2, located in Spencer County, when burning fuels identified in section 3(d)(1) of this rule, shall comply with the following temporary alternative opacity limitations:

(1) When building a new fire in a boiler, opacity may exceed the applicable limitation established in section 2 of this rule for a period not to exceed a total of two (2) hours (twenty (20) six (6) minute averaging periods) during the startup period, or until the flue gas temperature reaches two hundred fifty (250) degrees Fahrenheit at the inlet of the electrostatic precipitators, whichever occurs first.

(2) When shutting down a boiler, opacity may exceed the applicable limitation established in section 2 of this rule once the flue gas temperature has dropped below two hundred fifty (250) degrees Fahrenheit at the inlet of the electrostatic precipitators for a period not to exceed a total of one and one-half (1.5) hours (fifteen (15) six (6) minute averaging periods) during the shutdown period.

(Air Pollution Control Division; 326 IAC 5-1-8)

Notice of Public Hearing

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An html version of this document.