UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

AUG 2 7 2018

Ms. Darcy Bybee, Director
Air Pollution Control Program
Missouri Department of Natural Resources
PO Box 176
Jefferson City, Missouri 65102

RE: Draft Permit to Construct
Nucor Corporation-Sedalia (ID #159-0078)
Project No. 2018-03-048

Dear Ms. Bybee:

On July 28, 2018, the Missouri Department of Natural Resources Air Pollution Control Program (MoDNR) published a public notice for a draft of the Permit to Construct for the Nucor Corporation-Sedalia facility. The United States Environmental Protection Agency, Region 7 (EPA) has reviewed this draft permit and provides the following comments which we hope will improve this and future permits.

First, the introduction to the Best Available Control Technology (BACT) Analysis, on page 27 of the draft permit, indicates the analysis can be found in the application and addendums, which are incorporated by reference. The BACT introduction goes on to indicate the information MoDNR has included in the BACT Analysis of this Permit to Construct, are items that were changed or are in addition to what was presented in the BACT Analysis section of the permit application. EPA finds this approach to be awkward and confusing. It requires the permit reviewer to refer to multiple documents while attempting to understand the BACT analysis and resulting technology determination reached by Nucor. EPA encourages MoDNR to consider a more common inclusive BACT Analysis approach, whereby the complete 5-step pollutant by pollutant BACT analysis, presented by the permittee with the changes and / or additions proposed by MoDNR, are included in the technical support portion of the draft permit to construct. This will assist in a more logical, reasonable and methodical review.

Additionally, for the 5-step BACT analysis, Nucor appears to have eliminated many control technologies at step 2 of the BACT analysis on the grounds of technical infeasibility. EPA's believes many of these technologies for NO_x, SO_2, VOC and CO are available and technically feasible for the described process. Furthermore, for technically feasible technologies, the BACT top-down analysis requires the applicant to complete the analysis by compiling the technologies under step 4 and analyzing them in step 5. Several of the technologies Nucor eliminates in step 2 may result in effective control if placed further upstream or downstream of the impediment that makes such technologies technically infeasible. For example, if high dust loading is used to eliminate selective catalytic reduction for NO_x control, it may be possible to move the controls to the tail end of the process following particulate removal.

We realize that additional equipment and fuel may be necessary, such as for gas-reheat, but these are costs rather than technical impediments that should be considered at step 4 of the BACT analysis. It's possible that such costs ultimately render the technology economically infeasible, but this should be evaluated at steps 4 and 5. This top down approach is described in a number of EPA guidance documents and Environmental Appeal Board rulings and forms the basis for a complete administrative record. EPA believes the record in this case would benefit from a comprehensive BACT analysis following the 5-step, top down BACT process. Additional suggestions for pollutant-specific technologies are described under paragraphs (a)-(d) below:

(a) Results of the carbon monoxide (CO) BACT analysis proposes the use of direct injection control (DEC) with an air gap and effective use of a scrap management plan. However, the details of the "effective scrap management plan" are not presented in the BACT analysis and EPA suggests MoDNR consider having Nucor provide their detailed explanation of an effective scrap management plan for review. The effective scrap management plan should include sufficient detail such that compliance verification is easily determined.

(b) In the Nucor discussion of nitrogen oxide (NO_x) BACT technologies considered, there is no mention or discussion on the use of tail end selective catalytic reduction (SCR) which can be installed downstream of the particulate control device. Also, Nucor's NO_x BACT analysis makes no mention of the control / optimization of oxy injection. EPA suggests MoDNR consider requesting additional NO_x BACT determination and analysis discussion from Nucor.

(c) The sulfur dioxide (SO_2) BACT discussion from Nucor rejects the use of a wet gas scrubber due to technical difficulties, such as high temperature. EPA believes that this is not justifiable because temperatures can be cooled, prior to the scrubber, through such ways as the use of a preheater. So again, EPA suggests MoDNR consider requiring Nucor to undertake a more thorough review and analysis of SO_2 BACT control technology.

(d) The volatile organic compound (VOC) BACT discussion, presented by Nucor, considers the use of carbon adsorption, however, Nucor rejects this technology because of high temperature and particulate loading. EPA believes Nucor failed to consider the use of high temperature granular activated carbon located downstream from the particulate control baghouse. The VOC BACT determination also discounts the use of a condenser because it is outside the economic range. However, as stated in the BACT analysis introduction above, Nucor does not present an economic feasibility assessment to justify their position.

Second, the draft Permit to Construct includes several abbreviations and acronyms which are not included in Appendix A and are not obviously otherwise defined. This makes for a difficult document review and EPA encourages MoDNR consider reviewing the acronyms within the permit and include definitions as appropriate.

Third, Special Condition 4. A. 2) and Special Condition 4. B. 3) require Nucor to record damper positions once per shift. EPA believes that damper position is a measurement which could easily be automated and suggests MoDNR consider automatic monitoring of damper position. Additionally, fan amperage, required in Special Condition 4. A. 2), is easily recorded and trended on a continuous basis. As such, EPA recommends MoDNR consider the use of continuous fan amperage monitoring for the DEC.

Fourth, Special Condition 4. C. 3) b) requires Nucor to monitor total air flow into the baghouse; however, there is no discussion as to how air flow is to be measured. EPA recommends MoDNR consider including a discussion of how baghouse inlet air flow is measured.

Fifth, Special Condition 5. D. includes an activity for which Nucor must complete within "90 days from the date of start-up." Special Condition 14. B. 6) requires Nucor to perform initial haul road testing no later than "180 days after initial start-up for commercial operations." Special Condition 15. B. requires Nucor to complete a physical barrier construction prior to "commencing operations of any unit contained in this permit." The terms "within 90 days from the date of start-up;" "no later than 180 days after initial start-up for commercial operations;" and "prior to commencing operations of any unit contained in this permit" are all likely too vague to be enforced from a practical matter. EPA encourages MoDNR to consider defining the terms of "start-up;" "start-up for commercial operations;" and "commencing operations."

Sixth, Special Condition 7. G. requires Nucor to demonstrate compliance with the GHG emission limit in Special Condition 9. A. EPA believes the GHG emission limit is in Special Condition 6. A. and suggests MoDNR consider changing the reference.

Seventh, Special Condition 14. B. 1) requires Nucor to submit a Standard Operating Procedure to the Air Pollution Control Program Compliance/ Enforcement Section within 60 days of the submittal of the initial test report in Special Condition 14. C. EPA's read of Special Condition 14. C. does not indicate a submittal of an initial test report and suggests MoDNR may want to revisit the reference citation.

Finally, Special Condition 13. D. require Nucor to record pressure drop across silo filters at least once per day. Pressure drop is a measurement which is easily recorded on a continuous basis and EPA suggests MoDNR consider continuous pressure drop monitoring across silo filters.

We appreciate the opportunity to provide what we hope you will find to be some constructive comments. If you have any questions, please contact Bob Cheever by phone at (913) 551-7980 or email at cheever.robert@epa.gov.

Sincerely,

Leslye E. Werner

Leslye E. Werner, Acting Chief
Air Permitting and Compliance Branch
EPA Region 7

cc: John Kinter,
Nucor Steel-Sedalia