

American Foundry Society
Comments on the U.S. Environmental Protection Agency
Proposed Federal Implementation Plan Addressing Regional Ozone
Transport for the 2015 Ozone National Ambient Air Quality Standard
Docket ID No. EPA-HQ-OAR-2021-0668

June 21, 2022

The American Foundry Society (AFS) hereby submits the following comments on the April 6, 2022 U.S. Environmental Protection Agency (EPA) proposed federal implementation plan addressing regional ozone transport for the 2015 ozone national ambient air quality standard. 87 Fed. Reg. 20036. Pursuant to the “good neighbor” or “interstate transport” provision in the Clean Air Act, EPA is proposing nitrogen oxide (NO_x) emissions budgets for electric generating units and NO_x emission limits for specified industrial stationary sources, including boilers and furnaces in Iron and Steel Mills and Ferroalloy Manufacturing. AFS contends that based on the administrative record supporting the proposed rule, EPA did not intend to include iron and steel foundries to be an industrial source category subject to the proposed NO_x emission limitations and seeks clarification from EPA on this issue.

INDUSTRY OVERVIEW

AFS is the major trade and technical association for the North American metalcasting industry. AFS has approximately 7,000 members representing over 2,000 metalcasting firms, their suppliers, and customers. The organization exists to provide knowledge and services that strengthen the metalcasting industry for the ultimate benefit of its customers and society. AFS seeks to advance the sciences related to the manufacture and utilization of metalcasting through research, education, and dissemination of technology. AFS also provides leadership in the areas of environmental, safety and industrial hygiene, government affairs, marketing, management, and human resources for the metalcasting industry.

Metal castings are integral to virtually all U.S. manufacturing activities. In the U.S., castings are used to produce 90 percent of all manufactured durable goods and nearly all manufacturing machinery. The industry is composed of more than 1,750 facilities manufacturing castings made from iron, steel, aluminum, and other alloys that have thousands of applications. In addition to the automotive, construction, and defense industries, other major sectors supplied by the metalcasting industry include agriculture, aerospace, energy exploration and conversion, oil and gas, mining, railroad, municipal/water infrastructure, transportation, and health care.

The U.S. metalcasting industry accounts for \$44.3 billion in direct economic benefit and a total national economic impact of \$110.52 billion. It also provides direct employment for nearly 200,000 men and women and supports nearly 500,000 jobs directly and indirectly. The industry supports a direct payroll of approximately \$11.6 billion and more than \$32 billion including indirect wages. Metalcasting facilities are found in every state, and the industry is made up of predominately small businesses. Approximately 80 percent of domestic metalcasters have fewer than 100 employees.

IRON AND STEEL FOUNDRIES SHOULD NOT BE SUBJECT TO THE PROPOSED RULE

The proposed rule identifies Iron and Steel Mills and Ferroalloy Manufacturing as one of the industrial stationary source categories that would be subject to the proposed NO_x limits. In this rule EPA appears to be targeting the largest industrial stationary source emitters of NO_x, which would not include iron and steel foundries. As such, it appears that EPA did not intend for iron and steel foundries to be covered by this rule.

First, EPA specifically identifies NAICS code 3311, Iron and Steel Mills and Ferroalloy Manufacturing, as being covered by this rule. EPA does not list NAICS code 3315 that includes foundries. While the Technical Support Document for the proposed rule does reference units subject to the NESHAP for Iron and Steel Mills and Ferroalloy Manufacturing (40 CFR Part 63, Subpart FFFFF), and the NESHAP for Iron and Steel

Foundries (40 CFR Part 63, Subpart EEEEE), EPA does not state that the iron and steel foundry source category is covered by this rule. In addition, EPA does not provide any data from iron and steel foundry units for NO_x emissions or control cost effectiveness as a basis for establishing the proposed NO_x emissions limits. The data are limited to NO_x emissions from uncontrolled iron and steel mill sources. Nonetheless, without any specific foundry evidence cited, the Technical Support Document claims that control technology could be feasibly applied to iron and steel foundry cupolas to control NO_x emissions to meet the proposed limits. This assumption is in error on a number of levels, but for clarity purposes cupolas are used in the production of molten iron and not steel.

The general criteria noted in the proposal for applying controls to iron and steel mill units is an annual NO_x emission rate of 100 tons with a cost effectiveness of \$7,500 per ton of NO_x controlled. The EPA RACT/BACT/LAER Clearinghouse does not identify any control technology for cupola NO_x emissions, and the cost per ton of NO_x emissions controlled would be significantly more than \$7,500 per ton as discussed below. Steel production facility melt rates are generally an order of magnitude higher than those at foundries, and so would the NO_x emissions be higher. Thus, very few foundries would have the capacity to exceed the 100-ton NO_x emission threshold cited in the proposed rule. In short, the comparison between iron and steel mills and iron and steel foundries is not equal, and therefore, foundries should not be included in the proposed rule.

It appears the inclusion of iron and steel foundries is based on one reference noted in the Technical Support Document, a 2011 study by RTI that cited the technical feasibility of applying selective catalytic reduction (SCR) to foundry cupolas. This study was not included in the rule docket, and therefore, could not be correctly evaluated. The use of SCR is not technically feasible for a foundry cupola as SCR require consistent temperature, flow rates, and concentrations that do not exist for most cupolas. AFS is not aware of any control applications of SCR on foundry cupolas. In addition, the 2011 RTI study estimated the cost of applying SCR control to

foundry cupolas of \$10,000 per ton of NOx emissions controlled. This is well above the \$7,500 cost effectiveness threshold used in the rule development.

Based on this information and other technical support in the administrative record for the proposed rule, it does not appear that EPA intended for iron and steel foundries to be covered by this rule. EPA specifically identified iron and steel mills as covered by this rule, and developed NOx emission limits based solely on data from iron and steel mills. The proposed NOx emission limits would not be feasible for iron and steel foundries, and the control cost-effectiveness criteria to justify the proposed rule are not applicable for foundry units, because iron and steel foundry operations are different than iron and steel mill operations.

Accordingly, AFS requests that EPA clarify that it did not intend to cover iron and steel foundries in this proposed rule. To the extent that EPA intended to include some specific units at foundries, then EPA should clearly state that the rule would apply only to those boilers and furnaces at iron and steel foundries if they meet specific thresholds for NOx emissions, provide data from these iron and steel foundry units for NOx emissions and control cost effectiveness analysis as a basis for establishing the proposed NOx emissions limits.

CONCLUSION

AFS appreciates the opportunity to provide these comments on the proposed rule , and looks forward to clarifications from EPA that it did not intend to cover iron and steel foundries in this rule. On behalf of AFS, please contact Jeff Hannapel with our AFS Washington office at jhannapel@thepolicygroup.com, if you have any questions or would like additional information about the comments.