Federal Hazardous Air Pollutant Standard: Electric Arc Furnace Steelmaking Area Sources

Michigan Department of Environmental Quality • Air Quality Division • 800-662-9278

This fact sheet is designed to help Michigan **electric arc steelmaking facilities** comply with the requirements found in the *NESHAP for Electric Arc Furnace Steelmaking Area Sources (Rule)*. This fact sheet is to be used only as a guide and is not a substitute for reading and understanding the final rule which is found in the Federal Register notice published December 28, 2007 (pages 74088-74116), which can be reviewed at: **http://www.epa.gov/ttn/atw/area/arearules.html**

OVERVIEW OF THE RULE

Section 112(d) of the Clean Air Act (CAA) requires the United States Environmental Protection Agency (USEPA) to establish National Emission Standards for Hazardous Air Pollutants (NESHAP) for both major and area sources of hazardous air pollutants.

The CAA also requires the USEPA to identify and list the area source categories that represent 90 percent of the emissions of the 30 urban air toxics associated with area sources and subject them to standards under the CAA section 112(d)). The USEPA has identified a total of 70 area source categories which represent 90 percent of the emissions of the 30 listed air toxics. Electric arc steelmaking facilities were included in the area source category list based on the emission of the Urban hazardous air pollutants (HAPs) arsenic, cadmium, chromium, lead, manganese, and nickel.

The NESHAP for area source electric arc furnace steelmaking facilities was issued on December 28, 2007 (40 CFR 63 subpart YYYYY). In the NESHAP, the USEPA issued emission standards and pollution prevention practices based on generally available control technology (GACT) for the control of Urban HAPs that are emitted from electric arc furnaces (EAF) and argon-oxygen decarburization (AOD) vessels. The NESHAP also established pollution prevention management practices based on Maximum Achievable Control Technology (MACT) for mercury in accordance with Section 112(c)(6) of the CAA. The pollution prevention management practices reduce mercury emissions generated from furnace charge materials.

APPLICABILITY

This rule applies to existing and new electric arc steelmaking facilities that are an area source of HAPs. There is no minimum melt production rate or capacity to be subject to this rule. The affected source is each electric arc furnace steelmaking facility. An electric arc furnace steelmaking facility means a steel plant that produces carbon, alloy, or specialty steels using an EAF. This definition excludes EAF steelmaking facilities at steel foundries and EAF facilities used to produce nonferrous metals.

DEFINITION OF AREA SOURCE

An area source is any source that is not a major source. (A major source is a facility that emits, or has the potential to emit in the absence of controls, at least 10 tons per year (TPY) of an individual HAP or 25 TPY of combined HAPs.) For this subpart, a source is considered to be a new source if it is constructed after September 20, 2007.

GENERAL REQUIREMENTS

Title V Permit

All facilities subject to this subpart are required to have or obtain a Title V permit under 40 CFR part 70.

Compliance Dates

All existing facilities must comply with the requirements for a particulate matter (PM) capture and control system for each EAF and AOD, mercury, other contaminants in scrap, (PM) and opacity by **June 30, 2008**, unless the Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) approves an alternative compliance date based on a demonstration that additional time is needed to install or modify emission control equipment to meet the opacity limit. If approved, the alternative compliance date shall be no later than December 28, 2010. Note that this compliance extension is only applicable to the opacity limit, the facility must comply with the June 30, 2008 deadline for all other compliance requirements. For details regarding compliance dates, refer to § 63.10681.

New sources (affected sources constructed since September 20, 2007) must comply by December 28, 2007 or upon startup if startup occurs after December 28, 2007.

The facility must monitor the capture system and PM control device required by the subpart according to the compliance assurance monitoring (CAM) requirements in 40 CFR Part 64. The monitoring information required by 40 CFR 64.4 must be submitted to MDEQ-AQD for approval by no later than the compliance date for affected source for this subpart and operate according to the approved plan by no later than 180 days after the date of approval by MDEQ-AQD. For details regarding CAM, refer to § 63.10686(e).

PERFORMANCE TESTING

Particulate Matter and Opacity

Facilities are required to conduct initial performance testing to show compliance with the PM emission limit for an EAF or AOD vessel. Facilities are also required to conduct opacity testing for each melt shop for opacity due solely to the operations of any affected EAF(s) or AOD vessel(s), according to the procedures in § 63.6(h) and Method 9 of appendix A–4 of 40 CFR part 60. When emissions from any EAF or AOD vessel are combined with emissions from emission sources not subject to this subpart, the applicable facility must demonstrate compliance with the melt shop opacity limit based on emissions from only the emission sources subject to this subpart.

A facility has the option to submit the results of a prior performance test for PM and/or opacity if it was conducted within the past five years using the procedures specified in the rule, upon approval by the MDEQ-AQD.

If performance testing must be conducted, it must initially be conducted within 180 days of the compliance date for both an existing or new source. For an existing source the compliance date is June 30, 2008 therefore, performance testing must be conducted by December 27, 2008.

For details regarding performance testing, refer to § 63.10686(d).

MONITORING

Facilities are required to monitor the capture system and PM control device required by the subpart according to the CAM requirements in 40 CFR Part 64. CAM monitoring, recordkeeping and reporting requirements will be incorporated into a Title V permit.

RECORDKEEPING REQUIREMENTS

For site-specific plans for mercury, records must be kept for the number of switches or weight of mercury removed, number of vehicles processed, and percent of mercury switches removed.

For the USEPA-approved mercury option, records must be kept and maintained identifying each scrap provider and documenting their participation in an USEPA-approved mercury program. If the facility purchases scrap from a broker, records must be retained identifying each broker and documenting that the scrap provided by the broker was obtained from scrap providers participating in an USEPA approved program.

Facilities must also maintain records according to the compliance assurance monitoring requirements in their Title V permit for five years.

REPORTING REQUIREMENTS

Notification and reporting requirements along with submittal deadlines are summarized in Table B.

Table A. Area Source EAF Steelmaking Facility Requirements Standards and Management Practices

For..	The facility must...
Mercury	Comply with one of the following options for each scrap provider, contract or shipment. The facility may have one scrap provider, contract or shipment subject to one option and others subject to other options. 1. Prepare, submit for approval, and implement a detailed site-specific plan for the removal of mercury containing switches from motor vehicle scrap; 2. Certify that the facility participates in and purchases motor vehicle scrap only from scrap providers who participate in an USEPA-approved program for the removal of mercury containing switches; 3. Certify that the only materials from motor vehicles in the scrap are those recovered for their specialty alloy content and that the scrap is not reasonably expected to contain mercury containing switches; or 4. Certify that the scrap does not contain motor vehicle scrap.
Contaminants in scrap other than mercury	Comply with one of the following options. The facility may have certain scrap subject to one option and other scrap subject to the other option if the scrap remains segregated until it is combined for charging to the EAF. 1. Prepare, submit for approval, and implement a pollution prevention plan for scrap selection and inspection to minimize the amount of chlorinated plastics, free organic liquids, and lead (except for the production of leaded steel). 2. Do not charge scrap that contains scrap from motor vehicle bodies, engine blocks, oil filters, oily turnings, machine shop borings, transformers or capacitors containing polychlorinated biphenyls, lead-containing components (except for the production of leaded steel), chlorinated plastics, or free organic liquids.
Particulate matter (PM)	1. Install, operate, and maintain a capture system that collects emissions from each EAF and AOD vessel. 2. Except for small stainless or specialty steel facilities, meet a PM limit of 0.0052 grains per dry standard cubic foot for each EAF and AOD vessel. 3. For small (less than 150,000 tons per year) stainless or specialty steel facilities, meet a PM emission limit of 0.8 pounds per ton of steel produced. Alternatively, a facility may elect to comply with a PM limit of 0.0052 grains per dry standard cubic feet.
Opacity	Maintain the opacity of emissions from the melt shop that are due to the operation of any EAF or AOD vessel below 6 percent.

Table B. Reporting Requirement Timeline

Reporting Requirements	Existing Source Deadline	New Source Deadline
Notification of Compliance Status (mercury requirements and for the control of other contaminants)	June 30, 2008	Within 60 days after compliance date
Notification of Compliance Status (PM capture and control system requirements and PM and opacity limits if no performance testing is conducted)	June 30, 2008	Within 60 days after compliance date
Notification of Compliance Status (For PM and opacity if conducting performance testing)	Within 60 days of completing testing	Within 60 days of completing testing
Notification of Compliance Status (Development and submittal of proposed CAM information)	August 29, 2008	Within 60 days after compliance date
Submit semiannual compliance reports for the control of contaminants in scrap (mercury, chlorinated plastics, lead, free organic liquids), identify any deviations from the requirements, and identify which compliance option applies to each scrap provider, contract, or shipment.	Semi-annually	Semi-annually
If utilizing a site specific plan for mercury Report of the number of switches or weight of mercury removed, number of vehicles processed and an estimate of the percent of mercury and switches removed. Also submit a certification that you have performed the required inspections or taken other means of corroboration that your scrap providers are implementing steps to minimize the presence of mercury switches in motor vehicle scrap.	Semi-annually	Semi-annually

Submit all required notifications and reports to your local MDEQ-AQD District Office.

Where to Go For Help

If you have any questions regarding this regulation, please contact:

Eric Grinstern
Michigan Department of Environmental Quality
Air Quality Division
Grand Rapids District Office
350 Ottawa Ave., NW Unit 10
Grand Rapids, MI 49503-7760
(616) 356-0266

AUTHORITY: PA 451 of 1994, as amended
TOTAL COPIES: 200
TOTAL COST: $70.00
COST PER COPY: $.35

Michigan Department of Environmental Quality
Jennifer M. Granholm, Governor
Steven E. Chester, Director
www.michigan.gov/deqenvassistance
June 2008