

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5**

In the Matter of:	)	
	)	
Magnesium Elektron NA	)	FINDING OF VIOLATION
Madison, Illinois	)	
	)	EPA-5-24-IL-08
Proceedings Pursuant to	)	
the Clean Air Act,	)	
42 U.S.C. §§ 7401 <i>et seq.</i>	)	

FINDING OF VIOLATION

The U.S. Environmental Protection Agency finds that Luxfer Graphic Arts d.b.a. Magnesium Elektron NA (Magnesium Elektron) is violating Section 112 of the Clean Air Act (CAA), 42 U.S.C. § 7412. Specifically, Magnesium Elektron is violating the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Nonferrous Metals Processing Area Sources at 40 C.F.R. Part 63, Subpart TTTTTT (Subpart TTTTTT), as follows:

Statutory and Regulatory Authority

1. Section 112(c) of the CAA, 42 U.S.C. § 7412(c), requires the EPA to promulgate a list of all categories and subcategories of new and existing “major sources” of hazardous air pollutants (HAP), and establish emissions standards for the categories and subcategories. These emission standards are known as the National Emission Standards for Hazardous Air Pollutants (NESHAP). The EPA codified these standards at 40 C.F.R. Parts 61 and 63.
2. Section 112(k) of the CAA, 42 U.S.C. § 7412 (k), requires the EPA promulgate a program that addresses HAP emissions from area sources.
3. “Major source” is defined as “any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.” 42 U.S.C. § 7412(a)(1).
4. “Area source” is defined as “any stationary source of hazardous air pollutants that is not a major source.” 42 U.S.C. § 7412(a)(2).
5. “Stationary source” is defined as “any building, structure, facility, or installation, which emits or may emit any air pollutant.” 42 U.S.C. §§ 7411(a)(3), 7412(a)(3).
6. “Hazardous air pollutant” is defined as “any air pollutant listed in or pursuant to” Section 112(b) of the CAA. 42 U.S.C. § 7412(a)(6).

7. Section 112(i)(3) of the CAA, 42 U.S.C. § 7412(i)(3), prohibits any person subject to a NESHAP from operating a source in violation of a NESHAP after its effective date. *See also* 40 C.F.R. §§ 61.05 and 63.4.
8. EPA has promulgated General Provisions for the NESHAP at 40 C.F.R. Part 63, Subpart A.
9. Pursuant to Section 112(k)(3)(B) of the CAA, 42 U.S.C. § 7412(k)(3)(B), on December 26, 2007, the EPA promulgated National Emissions Standards for Hazardous Air Pollutants for Area Sources: Secondary Nonferrous Metals Processing, at 40 C.F.R. Part 63, Subpart TTTTTT (72 FR 73207).
10. The NESHAP at 40 C.F.R. Part 63, Subpart TTTTTT applies to the owner or operator of a secondary nonferrous metals processing facility that is an area source of HAP emissions. 40 C.F.R. § 63.11462(a).
11. The NESHAP at 40 C.F.R. § 63.11463(a) states that Subpart TTTTTT applies to any existing or new affected source located at a secondary nonferrous metals processing facility.
12. The NESHAP at 40 C.F.R. § 63.11463(b) states that the affected source includes, among other things, all furnace melting operations located at any secondary nonferrous metals processing facilities.
13. The NESHAP at 40 C.F.R. § 63.11472 defines “furnace melting operation” as the collection of processes used to charge post-consumer nonferrous scrap material to a furnace, melt the material, and transfer the molten material to a forming medium.
14. The NESHAP at 40 C.F.R. § 63.11472 defines “secondary nonferrous metals processing facility” as a brass and bronze ingot making, secondary magnesium processing, or secondary zinc processing plant that uses furnace melting operations to melt post-consumer nonferrous metal scrap to make products including bars, ingots, blocks, or metal powders.
15. The NESHAP at 40 C.F.R. § 63.11463(c) states that an affected source is existing if you commenced construction or reconstruction of the affected source on or before September 20, 2007.
16. The NESHAP at 40 C.F.R. § 63.11464(a) states that the compliance date for an existing affected source is December 26, 2007.
17. The NESHAP at 40 C.F.R. § 63.11465(a) requires that you must route the emissions from each existing affected source through a fabric filter or baghouse that achieves a particulate matter (PM) control efficiency of at least 99.0 percent or an outlet PM concentration limit of 0.034 grams per dry standard cubic meter (g/dscm)(0.015 grains per dry standard cubic feet (gr/dscf)).
18. The NESHAP at 40 C.F.R. § 63.11466(a) requires that, if you own or operate an existing or new affected source, you must conduct a performance test for each affected source within 180 days of your compliance date and report the results in your Notification of Compliance Status.

19. The NESHAP at 40 C.F.R. § 63.11467(a) requires that you must demonstrate initial compliance with the applicable standards in § 63.11465 by submitting a notification of compliance status.

20. The NESHAP at 40 C.F.R. § 63.11467(b) requires that you conduct a baghouse inspection specified in 40 C.F.R. § 63.11467(c) and include the results of the inspection in the notification of compliance status.

21. The NESHAP at 40 C.F.R. § 63.11467(g) requires that if you own or operate an existing affected source and are required to conduct a performance test under 40 C.F.R. § 63.11466, you must submit the notification of compliance status within 60 days after completing the performance test.

22. The General Provisions at 40 C.F.R. § 63.9 contain notification requirements. These include 40 C.F.R. § 63.9(b), which contains requirements for initial notifications.

23. The NESHAP at 40 C.F.R. § 63.11469(a) requires that you must submit the initial notification required by § 63.9(b)(2) no later than 120 days after the applicable compliance date specified in 40 C.F.R. § 63.11464. The initial notification must include the information specified in 40 C.F.R. § 63.9(b)(2)(i) through (iv) and may be combined with the notification of compliance status required in 40 C.F.R. § 63.11467 and 40 C.F.R. § 63.11469(b) if you choose to submit both notifications within 120 days.

Findings of Fact

24. Magnesium Elektron owns and operates a secondary magnesium processing plant at 1001 College Street, Madison, Illinois (the Facility).

25. The Facility was constructed before December 27, 2007.

26. The compliance date for the Facility is December 26, 2007.

27. The Facility uses furnace melting operations to melt internally produced and purchased magnesium scrap in ten natural gas-fired kettle furnaces.

28. The ten kettle furnaces are used to charge and melt the magnesium scrap, and to transfer the molten material to a forming medium.

29. The Facility emits or has the potential to emit considering controls, in the aggregate, less than 10 tons per year of any HAP and less than 25 tons per year of any combination of HAPs.

30. Magnesium Elektron's Facility is subject to requirements at 40 C.F.R. Part 63, Subpart TTTTTT, and the General Provisions at 40 C.F.R. Part 63, Subpart A, including 40 C.F.R. § 63.9.

31. On May 10, 2023, EPA conducted a CAA inspection of the Facility.

32. During the May 10, 2023 inspection, EPA inspectors observed the ten kettle furnaces without a fabric filter or baghouse to control emissions from furnace melting operations.

33. During the May 10, 2023 inspection, EPA requested records and documents, including emission calculations.

Violations

34. Magnesium Elektron failed to route the emissions from each existing affected source through a fabric filter or baghouse that achieves a PM control efficiency of at least 99.0 percent or an outlet concentration limit of 0.034 g/dscm, as demonstrated by lack of air pollution control device associated with the furnace melt operations during the May 10, 2023 inspection, in violation of 40 C.F.R. § 63.11465(a).

35. Magnesium Elektron failed to conduct a performance test for each affected source within 180 days of its compliance date and report the results in a notification of compliance status, in violation of 40 C.F.R. § 63.11466(a).

36. Magnesium Elektron failed to demonstrate initial compliance with the applicable standards in 40 C.F.R. § 63.11465 by submitting a notification of compliance status, in violation of 40 C.F.R. § 63.11467(a).

37. Magnesium Elektron failed to conduct a baghouse inspection specified in 40 C.F.R. § 63.11467(c) and include the results of the inspection in a notification of compliance status, in violation of 40 C.F.R. § 63.11467(b).

38. Magnesium Elektron failed to submit a notification of compliance status within 60 days after completing the performance test, in violation of 40 C.F.R. § 63.11467(g).

39. Magnesium Elektron failed to submit an initial notification required by 40 C.F.R. § 63.9(b)(2) no later than 120 days after the applicable compliance date specified in § 63.11464, in violation of 40 C.F.R. § 63.11469(a).

Environmental Impact of Violations

40. These violations have caused or can cause excess emissions of particulate matter. Particulate matter, especially fine particulates, contain microscopic solids or liquid droplets, which can get deep into the lungs and cause serious health problems. Particulate matter exposure contributes to:

- irritation of the airways, coughing, and difficulty breathing;
- decreased lung function;
- aggravated asthma;
- chronic bronchitis;
- irregular heartbeat;
- nonfatal heart attacks; and
- premature death in people with heart or lung disease.

41. The particulate matter emitted from certain secondary nonferrous metals processing facilities contains metal HAP, including, manganese, arsenic, chromium, nickel, and lead. Manganese is a neurotoxin at certain concentrations that can cause neuromotor and neuropsychological deficits. Inhaled manganese may be transported to the brain before it is metabolized by the liver. Exposure to elevated concentrations of manganese in the air may lead to a permanent neurological disorder known as manganism, the symptoms of which include tremors, difficulty walking, facial muscle spasms, negative cognitive effects, and mood changes. It may also lead to lung inflammation and impaired lung function. In children, exposure to elevated levels of manganese may result in effects on brain development, including changes in behavior and decreases in learning and memory capacities.

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