REGION 5
CHICAGO, IL 60604

10/10/2024

Ms. Jeryl Olson
Partner
Seyfarth Shaw LLP
233 S. Wacker Drive
Chicago, Illinois 60606-6448

RE: Response to Request for Updated Applicability Determination at Chem-Plate Industries under 40 C.F.R. Part 63 subpart E.

Dear Ms. Olson:

The U.S. Environmental Protection Agency received and reviewed a letter from Seyfarth Shaw LLP, on behalf of its client, Chem-Plate Industries, located in 1990 E. Devon Ave., Elk Grove Village, IL, dated August 9, 2024. Chem-Plate seeks an updated applicability determination that the sludge dryer in operation at their facility is not subject to the requirements of the National Emission Standard for Mercury, 40 C.F.R. pt. 61, subpart E. In summary, the EPA finds that the Mercury NESHAP is not applicable to Chem-Plate sludge drying operations at this facility because the sludge dryer is indirectly heated.

Background

On April 6, 1973, the EPA promulgated the Mercury NESHAP.[1] The standards limit emissions from mercury ore processing, sludge incineration and drying plants, and mercury-cell chlor-alkali plants. Briefly, air emissions from sludge incineration plants, sludge drying plants, or a combination of these that process wastewater treatment plant sludges shall not exceed 3.2 kg of mercury per 24-hour period.

On December 5, 2005, the EPA issued an applicability determination letter to Chem-Plate finding that the sludge dryer at Chem-Plate is subject to the requirements of the Mercury NESHAP.[2] In its determination, the EPA reasoned that the wastewater pretreatment system is elaborate and "represents a treatment plant that processes industrial waste waters."

[1] 40 CFR 61 Subpart E: https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-61/subpart-E
[2] Applicability Determination Index (ADI), Control Number Z080004: https://cfpub.epa.gov/adi/index.cfm?fuseaction=home.dsp_show_file_contents&CFID=97755674&CFTOKEN=c6159f16d380fa2d-98786D9E-E896-2D2D-1416848750996A25&id=Z080004

On May 15, 2023, the Illinois Environmental Protection Agency issued Chem-Plate a Violation Notice.[3] The Violation Notice alleges Chem-Plate violated environmental laws, regulations, or permits including requirements of the Mercury NESHAP. According to Chem-Plate, on July 31, 2024, IEPA requested Chem-Plate seek, from the EPA, an updated applicability determination with the information that the sludge dryer operated by Chem-Plate is not heated directly.

On August 9, 2024, Chem-Plate submitted a letter to the EPA requesting an updated applicability determination as to whether its sludge drying operations are subject to the requirements of 40 C.F.R. 61.53 or 61.45 relating to mercury testing and emissions, since the sludge dryer is indirectly heated.

Chem-Plate's Request for Updated Applicability Determination

Chem-Plate asserts that a new determination is necessary because the 2005 determination (ADI Control Number: Z080004) was "apparently made by USEPA without knowledge that the Chem-Plate dryer was indirectly heated." According to Chem-Plate, the EPA's determination in 2005 was issued in response to an applicability determination request submitted by IEPA.[4] Chem-Plate asserts that prior to the EPA's 2005 determination, "IEPA did not advise USEPA that the Chem-Plate sludge dryer was indirectly heated," and that the 2005 determination was made "without the Agency's knowledge of the fact that the Chem-Plate sludge dryer uses indirect heat and therefore is exempt from the relevant NESHAPs provisions." Furthermore, Chem-Plate claims it was unaware of the IEPA's request to EPA to make the determination, and the EPA's determination, until August 23, 2023. As such, Chem-Plate asserts that it was never afforded the opportunity in 2005 to "correct IEPA's applicability determination request to show its dryer was indirectly heated and therefore not subject to the NESHAP."

In its August 9, 2024, request letter, Chem-Plate identified the following sludge dryer definition, clarification, and emission standards:

Sludge dryer as defined in 40 C.F.R. § 61.51(m):

> *Sludge means sludge produced by a treatment plant that processes municipal or industrial waste waters.*

Sludge dryer clarification in 40 Fed. Reg. 48291:

> *The proposed definition of "sludge dryer" has been revised to indicate more clearly that only sludge drying operations that are directly heated by combustion gases are covered by the amendment. The amendment does not apply to devices that are indirectly heated,*

[3] Illinois Environmental Protection Agency Violation Notice A-2023-00046, I.D. 031440AHD

[4] IEPA and EPA are not in possession of a copy of the November 7, 2005 applicability determination request made by Don Sutton of IEPA.

such as secondary mercury recovery furnaces.

Mercury emission standard defined in 40 C.F.R.§ 61.52(b):

> *Emissions to the atmosphere from sludge incineration plants, sludge drying plants, or a combination of these that process wastewater treatment plant sludges shall not exceed 3.2 kg (7.1 lb) of mercury per 24-hour period.*

In its request letter, Chem-Plate enclosed a written statement from Hoffland Environmental, the manufacturer of the facility's sludge dryer. According to Hoffland Environmental, the sludge dryer at Chem-Plate Industries "is not a direct fired mechanism, where the heated product is directly contacted by the burner's flame." Rather, with the sludge dryer's design, "the burner's flame contacts the auger flight's mechanism, and the augers transfer the heat to the wet sludge. Since the flame never has direct contact to the product being dried, the dryer cannot be considered a direct contact dryer." Hoffland Environmental further explains that "the drying heat is transferred to the wet sludge through contact with the sludge movement augers," and concludes that the "dryer is an indirect fired mechanism."

Chem-Plate states that the sludge dryer at its facility "does not directly heat sludge, rather, the sludge drying operations at Chem-Plate are indirectly heated, and therefore the NESHAPs regulations requiring mercury testing are not applicable to Chem-Plate."

Analysis

The EPA finds that the Mercury NESHAP is not applicable to the sludge dryer at Chem-Plate. As further discussed below, the sludge dryer is indirectly heated, and therefore does not meet the definition of a sludge dryer in the Mercury NESHAP.

The Mercury NESHAP, 40 C.F.R. § 61.50, provides:

> *The provisions of this subpart are applicable to those stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge.*

In context of Chem-Plate's applicability determination request, the Mercury NESHAP applies to those stationary sources which incinerate or dry wastewater treatment plant sludge.

Section 61.51(l) and (m) of the Mercury NESHAP, 40 C.F.R. § 61.51(l) and (m), defines the terms sludge and sludge dryer, respectively:

> *Sludge means sludge produced by a treatment plant that processes municipal or industrial waste waters.*
>
> *Sludge dryer means a device used to reduce the moisture content of sludge by heating to*

temperatures above 65 °C (ca. 150 °F) directly with combustion gases.

Section 61.52(b) of the Mercury NESHAP, 40 C.F.R. § 61.52(b), sets the mercury emission standard:

> *Emissions to the atmosphere from sludge incineration plants, sludge drying plants, or a combination of these that process wastewater treatment plant sludges shall not exceed 3.2 kg (7.1 lb) of mercury per 24-hour period.*

The Hoffland Environmental enclosure describes the mechanism by which the sludge dryer at Chem-Plate Industries indirectly heats sludge. Briefly, a burner's flame contacts the auger flight's mechanism, and the auger movements transfer radiant heat to the wet sludge for drying purposes. During the drying process, there is neither a flame nor combustion products that directly contact the sludge.

Chem-Plate has a wastewater pretreatment system that includes batch treatment of cleaners, chromates and acid tank discharges, metals precipitation, a sludge thickening tank, filter press, and sludge dryer. The wastewater pretreatment system represents a treatment plant that processes municipal or industrial waste waters (i.e. sludge) and incinerate or dry wastewater treatment plant sludge. However, because its sludge dryer indirectly heats sludge, it does not meet the definition set under 40 C.F.R. 61.51(m). Therefore, Chem-Plate Industries is not subject to the Mercury NESHAP.

The EPA previously issued applicability determination letters on the applicability of Subpart E to sludge dryers relying on indirect heating mechanisms. In a 1989 applicability determination letter (Control Number: NR51), the EPA stated that sludge dryers relying on only radiant heat for drying purposes do not meet the definition of "sludge dryer" promulgated at 40 C.F.R. § 61.51(m), and are therefore not regulated under Subpart E.[5] In a 1992 applicability determination letter (Control Number: PA07), the EPA stated that in sludge dryers using indirect heat to heat sludge, "the heating medium does not come in contact with the material being treated," and are therefore "not currently subject to the standard [Subpart E]."[6]

This applicability determination letter is consistent with the EPA's previous determinations (Control Numbers NR51, and PA07) that sludge dryers relying on indirect heating mechanisms are not subject to Subpart E. Furthermore, this letter updates a prior determination (Control Number Z080004) made on the sludge dryer at Chem-Plate, and confirms it is not subject to Subpart E. This updated determination is made based on the material that Chem-Plate submitted in its August 9, 2024, request letter supporting its assertion that the indirect heating

[5] Applicability Determination Index, Control Number: NR51
https://cfpub.epa.gov/adi/index.cfm?fuseaction=home.dsp_show_file_contents&CFID=63843075&CFTOKEN=a4a63d178d4994a0-DDFB2ADF-DBF0-B531-6162B581D0876985&id=NR51

[6] Applicability Determination Index, Control Number: PA07
https://cfpub.epa.gov/adi/index.cfm?fuseaction=home.dsp_show_file_contents&CFID=63843075&CFTOKEN=a4a63d178d4994a0-DDFB2ADF-DBF0-B531-6162B581D0876985&id=PA07

mechanisms, by which the sludge dryer utilizes to dry wet sludge at Chem-Plate Industries, are not direct and does not meet the definition of 40 C.F.R. § 61.51(m).

This applicability determination relies upon the accuracy of the information provided by Chem-Plate in its August 9, 2024, request letter. This determination has been coordinated with the EPA's Metals and Inorganic Chemicals Group, Sector Policies and Program Division, in the Office of Air Quality Planning and Standards. If you have any further questions, please contact AH Hassaballah, of my staff, at Hassaballah.ah@epa.gov or at 312-886-1303.

Sincerely,

DOUGLAS ABURANO

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Date: 2024.10.10 10:01:14 -05'00'

Douglas Aburano
Manager
Air Programs Branch