



NESHAP Standard Affects Secondary Aluminum Production

Introduction

Under the Clean Air Act Amendments of 1990, EPA is required to regulate sources of hazardous air pollutants, or HAPs. EPA published a list of different categories of industrial processes that emit these pollutants. EPA is required to develop National Emission Standards for Hazardous Air Pollutants (NESHAP) for these source categories that require stringent control measures known as maximum achievable control technology (MACT).

In an effort to combat the creation and dangers of HAPs, the Environmental Protection Agency (EPA) is looking at pollutants released from operations at secondary aluminum production plants. The risks of cancer, respiratory irritation, and damage to the nervous system resulting from exposure to organic compounds including dioxins and furans, hydrogen chloride and chlorine gases, and 11 different metals, all potentially generated during process operations, prompted the EPA to examine new ways to reduce these pollutants.

EPA is required to develop standards for “major” secondary aluminum production facilities (those that emit or have the potential to emit 10 tons/year or more of a HAP or 25 tons/year of a combination of HAPs). Additionally, the EPA is required to develop MACT standards for “area” sources that emit one or more of seven specific pollutants, including dioxin/furans and polycyclic organic matter. Area sources emit (or have the potential to emit) less than 10 tons/year of a HAP or 25 tons/year of a combination of HAPs. Secondary aluminum production plants that are identified as area sources emit dioxin/furans. Thus, EPA listed these sources for regulation as part of the effort to achieve a reduction in national emissions.

Is your facility affected?

This federal air regulation covers operations at secondary aluminum production plants, including recovery of aluminum from beverage cans and other scrap, and the melting, refining, and alloying of aluminum. The rule applies to:

- Secondary aluminum plants who are major sources. Businesses that emit 10 tons/year or more of a listed HAP or 25 tons per year of a combination of HAPs are classified as major sources, and all other sources are area sources.

Area sources are subject to the dioxin/furan emission limits and associated operating, monitoring, reporting, and record-keeping requirements. Affected equipment includes each new and existing thermal chip dryer, scrap dryer/delacquering kiln/decoating kiln, sweat furnace, and secondary aluminum processing unit containing one or more Group 1 furnace emission units other than for clean charge.

Major sources are subject to all the requirements contained in the rule. Affected equipment includes all of those pieces of equipment listed above in the area source category including each new and existing scrap shredder, Group 2 furnace, dross only furnace, and rotary dross cooler.

What is a “Group 2” furnace?

Confused about what a Group 1 or Group 2 furnace is? Here are a few definitions of equipment affected by this to help clarify things for you.

- Afterburner – means an air pollution control device that uses controlled flame combustion to convert combustible materials to noncombustible gases; also known as an incinerator or a thermal oxidizer.
- Aluminum scrap shredder – means a unit that crushes, grinds, or breaks aluminum scrap into a more uniform size prior to processing or charging to a scrap dryer/delacquering kiln/decoating kiln, or furnace. A bale breaker is not an aluminum scrap shredder.
- Clean charge – means furnace charge materials including molten aluminum; T-bar; sow; ingot; billet; pig; alloying elements; uncoated/unpainted thermally dried aluminum chips; aluminum scrap delacquered/decoated at 482° C or higher; other oil- and lubricant-free unpainted/uncoated gates and risers; oil- and lubricant-free unpainted/uncoated aluminum scraps, shapes, or prod-

ucts that have not undergone any process that would cause contamination of the aluminum with oils, lubricants, coatings, or paints; and internal runaround.

- Dross – means the slags and skimmings from aluminum melting and refining operations consisting of fluxing agent(s), impurities, and/or oxidized and non-oxidized aluminum, from scrap aluminum charged into a furnace.
- Dross-only furnace – means a furnace, typically of rotary barrel design, dedicated to the reclamation of aluminum from dross formed during melting, holding, fluxing, or alloying operations carried out in other process units. Dross and salt flux are the sole feedstocks to this type of furnace.
- Fabric filter – means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media; also known as a baghouse.
- Group 1 Furnace – means a furnace of any design that melts, holds, or processes aluminum that contains paint, lubricants, coatings, or other foreign materials with or without reactive fluxing, or processes clean charge with reactive fluxing.
- Group 2 Furnace – means a furnace of any design that melts, holds, or processes only clean charge and that performs no fluxing or performs fluxing using only non-reactive, non-HAP-containing/non-HAP-generating gases or agents.
- Reconstruction – means the replacement of components of an affected source or emission unit such that the fixed capital cost of the new components exceeds 50 percent of the fixed capital costs that would be required to construct a comparable new affected source, and it is technologically and economically feasible for the reconstructed source to meet relevant standard(s) established in this NESHAP.
- Rotary dross cooler – means a water-cooled rotary barrel device that accelerates the cooling of dross.
- Scrap dryer/delacquering kiln/decoating kiln – means a unit used primarily to remove various organic contaminants such as oil, paint lacquer, ink, plastic, and/or rubber from aluminum scrap (including used beverage containers) prior to melting.
- Secondary Aluminum Processing Unit (SAPU) – an existing SAPU means all existing Group 1 furnaces and all

existing in-line fluxers within a secondary aluminum production facility. A new SAPU means any combination Group 1 furnaces and in-line fluxers that are simultaneously constructed after February 11, 1999. Each of the Group 1 furnaces or in-line fluxers within a SAPU is considered an emission unit within that SAPU.

- Sweat furnace – means a furnace used exclusively to reclaim aluminum from scrap that contains substantial quantities of iron by using heat to separate the low-melting point aluminum from the scrap while the higher melting-point iron remains in solid form.
- Thermal chip dryer – means a device that uses heat to evaporate water, oil, or oil/water mixtures from unpainted/uncoated aluminum chips.

Examine emissions for all the equipment at your facility. You can find more information on source definitions and a list of all hazardous air pollutants at www.epa.gov/ttn/uatw/pollsour.html. You can also get assistance to determine your potential air pollutants from the Small Business Environmental Assistance Program at 1-800-578-8898.

Your facility may not be covered under the NESHAP rule if:

- the facility does not have the above listed equipment for secondary aluminum production,
- the facility manufactures aluminum die-castings, aluminum foundries, or aluminum extruders, or
- the facility and equipment are only used for research and development and are not used to produce a saleable product.

For more information

If your business is covered by this EPA rule, air operating permit standards, reporting, and recordkeeping requirements must be met. The Small Business Environmental Assistance Program at Kansas State University can assist you in determining your requirements. Please call SBEAP at 800-578-8898 or check us on-line at www.sbeap.org for more information.



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