CENTER for BIOLOGICAL DIVERSITY — Saving life on Earth

Aluminum Dynamics, Inc. Proposed Aluminum Processing Plant Air Pollution Permit: An Overview and Next Steps

Prepared by the Center for Biological Diversity, July 28, 2025

Comments Due:	**August 21, 2025**
How to Submit:	**Online web portal:** **https://azdeq.commentinput.com/?id=AVecu9mdE** **Or email to: airpermits@azdeq.gov** **Or mail to: ADEQ** **Air Quality Division, Air Permits** **Attn: Jeff Christensen** **1110 W. Washington St.** **Phoenix, AZ 85007**
Public Hearing:	**Thursday August 21, 2025 6-9 PM (MST – Arizona), Benson School District Cafeteria, 360 S Patagonia St. in Benson**

Aluminum Dynamics, Inc. wants to build a new aluminum processing plant in Benson, Arizona. The plant and its operations would sprawl across 200 acres and operate 24 hours a day, seven days a week, 365 days a year.[1]

The facility would process up to 289,080 tons of waste aluminum annually to create ingot that would be shipped to rolling mills in other parts of the country. The facility would use a process of shredding, heating, melting, and degassing. Because the facility would receive waste aluminum, it would handle and process materials of varying compositions and potential toxicity, such as aluminum contaminated with plastics, solvents, and other substances.[2]

The new plant would be a major source of air pollution. Sources of emissions at the facility would include scrap handling and shredding, melting and casting, and support systems including cooling towers and lime silos. Main emission points would include shredders and scrap processing hoppers, baghouses used to control pollution from furnaces, dryers, and presses, cooling towers, and silos storing lime.[3]

Key air pollutants that would be released include fine and very fine particulate matter (PM10 and PM2.5), nitrogen oxides and carbon monoxide related to combustion of gas-fired

[1] According to the company's May 14, 2025 revised air pollution permit application, https://static.azdeq.gov/pn/aq_adi_app.pdf.

[2] According to the company air pollution permit application, the maximum annual throughput of scrap aluminum would be 289,080 tons annually.

[3] The facility would specifically be a major source of hazardous air pollutants under the Clean Air Act and Arizona regulations. A discussion of emissions and emission points is found in Section 6 of Aluminum Dynamic's application, https://static.azdeq.gov/pn/aq_adi_app.pdf.

burners, and a number of pollutants that are known to be particularly harmful to human health, including hydrochloric acid gas, heavy metals like lead, and highly toxic dioxins, which can pose serious health risks even at extremely low concentrations.[4]

Key Air Pollutants that Would be Released by Aluminum Dynamics (from Aluminum Dynamics' application for an air pollution permit)[5]

Pollutant	Tons/Year
Particulate Matter Less than 10 Microns in Diameter	61.7
Particulate Matter Less than 2.5 Microns in Diameter	52.2
Nitrogen oxides	93.7
Carbon monoxide	80.3
Volatile organic compounds	93.3
Lead	0.003
Hydrochloric acid gas	92.3
Dioxins	0.00000188

A Flawed Air Pollution Permit

Before construction of the facility can begin, Aluminum Dynamics must obtain an air pollution permit from the Arizona Department of Environmental Quality. A draft permit is now out for public comment. An initial review has found numerous flaws and issues related to the permit's ability to assure compliance and protection of public health and the environment.[6]

Although the facility would be subject to stringent limits under the federal Clean Air Act's National Emissions Standards for Hazardous Air Pollutants, the permit does not set forth monitoring and operational requirements to ensure these limits are met at all times. Key concerns are as follows:

- <u>The Need for Continuous Monitoring</u>: The facility would rely on "baghouses" and lime injection to control particulate matter and other harmful emissions from furnaces and other processes. The permit requires no continuous air pollution monitoring, but rather only requires periodic "testing" to verify compliance. To assure compliance at all times, the permit must at least require the installation and use of continuous emission monitoring systems to monitor opacity (visible emissions), hydrochloric acid gas, dioxins, nitrogen oxides, and carbon monoxide.

[4] Hydrochloric acid gas is corrosive to the eyes, skin and mucous membranes. https://www.epa.gov/sites/default/files/2016-09/documents/hydrochloric-acid.pdf. Dioxins are "highly toxic" and can cause cancer, reproductive and developmental problems, damage to the immune system, and can interfere with hormones. https://www.epa.gov/dioxin/learn-about-dioxin.

[5] Potential emissions are identified in Aluminum Dynamic's May 14, 2025 air pollution permit application and presented in an emissions calculation spreadsheet on the Arizona Department of Environmental Quality's website, https://static.azdeq.gov/permits/adi/aqd_adi_emiss_calc.xlsx.

[6] The draft permit and supporting materials are available on the Arizona Department of Environmental Quality's website, https://azdeq.gov/public-notice-air-quality-permit-aluminum-dynamics-inc.

- The Permit Must Ensure Mandatory Pollution Control: The permit requires the use of "baghouses" and special burners to ensure compliance with emission limits, but states that these controls must only be used "to the extent practicable." Pollution controls must be mandatory at all times, the permit cannot allow for the use of controls only "to the extent practicable."

- More Ambient Air Quality Monitoring Must be Required: Although the permit would require baseline and operational monitoring of hydrochloric acid gas in the air around the facility and requires action if certain thresholds are exceeded, it does not require monitoring of other potentially harmful pollutants to ensure protection of public health. At a minimum, the permit must also require ambient air quality monitoring for nitrogen oxides, particulate matter, and heavy metals, especially lead, to ensure compliance with ambient air quality standards.

- All Monitoring Data Must be Reported: The permit does not require that all air quality monitoring data be submitted to the Arizona Department of Environmental Quality so that it can be publicly available. The permit only requires that reports of excess emissions be submitted to the Department. To ensure full transparency, the permit must require that all monitoring data be submitted to the Department so that it can be available to the public and people can understand and verify potential impacts to public health and the environment.

If the permit cannot meet these requirements, it must be denied on the basis that it fails to assure compliance with applicable requirements under the Clean Air Act.[7]

For more information contact Jeremy Nichols with the Center for Biological Diversity, jnichols@biologicaldiversity.org, (303) 437-7663.

[7] In accordance with Arizona Administrative Code, an air pollution permit cannot be approved if the conditions of the permit do not assure compliance with applicable requirements. *See* A.A.C. R18-2-304(J)(2)(d)