Natasha Watson

Dear ADEQ Air Quality Division,

I am submitting this formal comment regarding the draft Class I Air Quality Permit, which is subject to Title V of the Clean Air Act, for Aluminum Dynamics, Inc. (ADI) in Benson, Arizona. After reviewing the permit documents and Technical Support Document (TSD), I respectfully request that ADEQ revise or deny the permit based on the following technical and regulatory concerns:

1. Missing Dispersal Modeling for Aluminum Dust

The applicant's dispersion modeling does not include aluminum dust, despite the facility's projected emission of 9.9 tons of aluminum particulate annually. This omission is significant because aluminum dust is a hazardous air pollutant under SIC Code 3341 and can cause neurological and respiratory harm. ADEQ's own TSD confirms that modeling was conducted for PM2.5 and hydrogen chloride, but not for aluminum compounds specifically, which violates the requirement for comprehensive modeling under A.A.C. R18-2-306.01(F).

2. Incomplete Evaluation of Cumulative PM2.5 Exposure

The facility is projected to emit over 52 tons of PM2.5 annually, yet the modeling does not account for cumulative exposure from multiple stacks or potential background levels already present in the San Pedro Valley. This undermines the permit's compliance with 40 CFR § 51.160–51.165, which requires that major sources demonstrate they will not cause or contribute to violations of the National Ambient Air Quality Standards (NAAQS).

3. Lack of Continuous Monitoring for Hazardous and Criteria Pollutants

Hydrogen chloride is identified as a regulated hazardous air pollutant with emissions exceeding the major source threshold. However, the permit does not require continuous emissions monitoring (CEM) or stack testing for hydrogen chloride, which contradicts 40 CFR § 63.7505 and A.A.C. R18-2-312(B). Additionally, the facility is projected to emit significant quantities of PM2.5, aluminum dust, nitrogen oxides (NO_x), and carbon monoxide (CO), yet the permit lacks enforceable monitoring provisions for these pollutants. This undermines ADEQ's ability to ensure compliance with emission limits and protect public health.

Given the nature of aluminum scrap processing, the potential formation of dioxins and furans should also be evaluated. These compounds are highly toxic and persistent, and their presence—even in trace amounts—warrants continuous or periodic monitoring under EPA's hazardous air pollutant guidelines. Without robust monitoring requirements, the permit fails to meet the standards of the Clean Air Act and Arizona Administrative Code for major sources.

4. Failure to Apply and Enforce Mandatory Pollution Controls

The permit lacks a clear demonstration that Best Available Control Technology (BACT) has been applied to control PM2.5, aluminum dust, and hydrogen chloride emissions. Under A.A.C.

R18-2-406(A) and Clean Air Act § 165(a)(4), major sources must implement BACT for each regulated pollutant. The draft permit references general filtration systems but does not specify efficiency ratings, maintenance schedules, or backup controls. Without enforceable and mandatory pollution control requirements—including specific technologies, operational limits, and compliance verification—the permit fails to meet federal and state standards for major source permitting.

5. No Consideration of Downwind Impacts on Sensitive Receptors

The modeling fails to account for downwind impacts on sensitive receptors such as schools, nursing homes, and residential areas in Benson and St. David. This omission violates the intent of A.A.C. R18-2-306.01(C)(2), which requires that modeling reflect real-world exposure scenarios. Prevailing wind data and terrain features suggest that emissions could drift into populated areas, yet this is not addressed.

6. Inadequate Public Health Risk Assessment

The permit does not include a formal Human Health Risk Assessment (HHRA), despite the presence of multiple hazardous air pollutants. Given the proximity to vulnerable populations and the scale of emissions, ADEQ should require an HHRA under EPA's Air Toxics Risk Assessment guidelines before finalizing the permit.

7. Misapplication of Emission Factors and Data Quality

The permit appears to rely on generalized emission factors rather than site-specific testing or verified operational data, which may violate A.A.C. R18-2-406(B). ADEQ is required to use the most accurate and representative data available when issuing permits, especially for major sources.

8. No Provisions for Startup, Shutdown, and Malfunction (SSM) Emissions

The permit does not address excess emissions during startup, shutdown, or malfunction events, which are common in aluminum casting operations. This omission may conflict with 40 CFR § 63.6(e) and A.A.C. R18-2-310.01, which require that such events be accounted for and controlled to minimize public exposure.

9. No Air Toxics Screening for Nearby Residences

Despite the facility's proximity to residential neighborhoods and the Quiburi nursing facility, the modeling does not include an air toxics screening analysis for these receptors. This oversight may violate EPA's Air Toxics Screening Assessment guidelines, which call for evaluation of impacts on nearby populations when hazardous pollutants are present.

10. Insufficient Ambient Air Quality Monitoring Network

ADEQ has stated that an ambient monitoring network may be installed to assess community-level air quality impacts. However, the draft permit does not require or define the scope, frequency, or location of such monitoring. Given the facility's projected emissions of PM2.5, hydrogen chloride, aluminum dust, nitrogen oxides, and potential dioxins, a robust ambient air monitoring network must be mandatory—not optional. This network should include multiple monitors placed in

residential areas, near schools, and downwind receptors to ensure real-time public health protection and regulatory accountability. Without enforceable ambient monitoring requirements, ADEQ cannot verify that the facility's operations will remain within safe limits or respond effectively to community complaints.

11. Lack of Mandatory Reporting and Public Access to Monitoring Data

While ADEQ's permitting framework includes general provisions for monitoring, record keeping, and compliance reporting, the draft permit does not specify how or when monitoring data—especially ambient air quality and emissions data—will be reported or made publicly accessible. Under Title V permit requirements (General Provisions 7 and 21), facilities must submit semi-annual monitoring reports and annual compliance certifications. However, these requirements must be clearly stated in the permit and tailored to the specific pollutants and risks associated with this facility.

Given the scale of emissions and proximity to sensitive receptors, ADEQ must require that all monitoring data—including stack emissions, ambient air quality, and meteorological data—be:

• Reported at regular intervals (e.g., monthly or quarterly)

• Submitted to ADEQ in a standardized format

• Made publicly accessible online in near real-time

• Included in the facility's annual compliance certification

Without enforceable reporting requirements and public transparency, the community cannot verify compliance or respond to potential health risks.

Based on these technical deficiencies and regulatory gaps, I respectfully request that ADEQ:

• Require revised dispersion modeling that includes aluminum dust and cumulative PM2.5 impacts

• Mandate continuous monitoring and stack testing for hydrogen chloride, PM2.5, aluminum dust, NO_x, CO, and potential dioxins

• Enforce mandatory pollution control requirements, including BACT technologies, operational standards, and compliance verification for all regulated pollutants

• Reassess impacts on downwind receptors and require a formal health risk assessment

• Address SSM emissions and require air toxics screening for nearby residences

• Require a robust ambient air quality monitoring network with publicly accessible data and coverage of sensitive receptors

• Require mandatory reporting of all emissions and ambient monitoring data, with public access and standardized submission formats

• Ensure that all emission factors and modeling inputs are based on site-specific, verified data

Thank you for your attention to these concerns and for your commitment to protecting air quality and public health in Cochise County.

Sincerely,

Natasha Watson
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