

Five Key Issues in the Proposed HyCast Foundry Air Permit

Findings based on public comments submitted during the Iowa DNR permit review process.

Executive Summary and Legal Authority

A. What's wrong with this permit in plain terms

This draft permit is built mainly on paper estimates and assumptions rather than real-world verification. It assumes pollution controls continue performing at the level the permit expects, but it does not require enough ongoing monitoring to confirm that assumption during normal daily operation (#31, #64, #91).

The permit also relies on stack testing about once every five years. A five-year stack test is only a brief snapshot and cannot show what emissions are doing during the other 1,800+ days between tests (#31, #64). Past emissions reports show pollution levels have changed from year to year (#79), and the record explains that emissions are affected by scrap metal composition and economically influenced feedstock choices (#78).

In other words, emissions are not fixed, predictable, or fully captured by occasional tests and calculations.

B. What the law requires

Federal law requires Title V permits to contain monitoring, recordkeeping, and reporting sufficient to assure compliance:

- **Clean Air Act §504(c), 42 U.S.C. §7661c(c)** — monitoring, recordkeeping, and reporting sufficient to assure compliance
- **Clean Air Act §502(b)(5), 42 U.S.C. §7661a(b)(5)** — permits must contain enforceable conditions and monitoring needed to

determine compliance

Federal regulations implement these requirements and authorize additional monitoring where necessary:

- **40 C.F.R. §70.6(a)(3)(i)(B)** — monitoring sufficient to provide reasonable assurance of compliance
- **40 C.F.R. §70.6(c)(1)** — permits must include monitoring, testing, reporting, and operating conditions necessary to assure compliance
- **40 C.F.R. §70.7(a)(1)(iv)** — permits cannot be issued unless they assure compliance

Iowa must implement those same standards:

- **567 IAC 24.107(1)** — enforceable monitoring, recordkeeping, and reporting
- **567 IAC 24.107(6)** — permits must assure compliance with applicable requirements

Courts have repeatedly held that monitoring must be meaningful and enforceable:

- **NRDC v. EPA, 643 F.3d 311 (D.C. Cir. 2011)**
- **Sierra Club v. EPA, 536 F.3d 673 (D.C. Cir. 2008)**

EPA petition decisions likewise reinforce that monitoring gaps and assumption-based permitting can be objection-worthy:

- **EPA Order — Valero Houston Refinery (Petition VI-2024-17)**
- **EPA Order — South32 Hermosa**

C. Monitoring requirements apply even when a facility is not a major source

Title V monitoring and enforceability duties apply whenever the

permit does not allow compliance to be determined during operation.

A permit that relies primarily on annual emissions totals and infrequent stack testing does **not provide monitoring sufficient to assure compliance during normal operations**, as required by Clean Air Act §504(c) and 40 C.F.R. §70.6(a)(3).

Annual totals alone cannot show:

- when emission spikes occur
- when controls fail
- how scrap choices affect emissions
- what reaches the facility boundary

D. What the legal standard supports in this case

The record indicates:

- scrap-driven emission variability (#78)
- documented hazardous metals including lead (#79)
- economic incentives affecting scrap selection (#78)
- reliance on existing pollution controls without continuous verification (#31, #64)
- large quantities of coarse particulate authorized without boundary verification (#60)
- pollutant categories not captured by particulate filtration (#7)

These circumstances support compliance-assurance tools such as:

- fenceline monitoring
- bag leak detection systems (BLDS)
- filter modernization and maintenance programs
- verification of gas-phase control performance where applicable

Five Key Issues

Issue 1 — The permit does not allow compliance to be confirmed during normal operations

The draft permit relies heavily on emissions calculations and infrequent testing rather than operational verification (#91). A five-year stack test cannot represent emissions across years of varying scrap inputs, maintenance conditions, weather patterns, and production levels (#31, #64).

DNR may argue that annual emission limits are enforceable. However, annual totals are after-the-fact accounting. They cannot determine when violations occur, how long they persist, or whether emission spikes occur during operation.

Without operational monitoring, compliance cannot be confirmed in practice.

Issue 2 — Scrap composition can influence emissions

The record explains that scrap composition directly influences pollutant output (#78). Emissions therefore depend not only on operating time but also on the characteristics of the metal feedstock.

If emissions vary with input materials, a permit that assumes static emissions factors without verification lacks a reliable mechanism to assure compliance.

Issue 3 — The permit assumes pollution controls continue to perform

The permit relies on assumed control efficiencies and continued performance of existing pollution controls (#31, #64).

The legal standard is not to wait until failure occurs. The

standard is to design permits that assure compliance during operation.

Continuous verification tools such as **bag leak detection systems** are widely recognized compliance-assurance tools.

Issue 4 — Particulate controls do not address all pollutants

Baghouses are designed to remove particulate matter. They are not designed to control many gaseous pollutants (#7).

If pollutants exist in gaseous form, the permit must verify that appropriate gas-phase controls are effective or require upgrades where needed.

Issue 5 — The permit lacks monitoring capable of determining whether emissions reach the facility boundary

The permit authorizes substantial quantities of coarse particulate matter without boundary verification (#60).

The record also documents hazardous metals including lead (#79) and explains that scrap composition can influence hazardous pollutant content (#78).

The permit does **not include monitoring capable of determining whether pollutant-bearing particulate emissions reach or cross the facility boundary during operation.**

Without monitoring capable of detecting emissions at or near the facility boundary, regulators and the public cannot determine whether emissions leaving the source remain consistent with permit assumptions.

Compliance-Assurance Measures That Could Address These Issues

Possible measures include:

- fenceline monitoring capable of detecting emissions leaving the source
- bag leak detection systems on each baghouse
- filter maintenance and replacement programs
- verification of gas-phase pollution controls where applicable

These measures do **not change emission limits**.

They simply help ensure those limits can be verified in practice.

Note: Numbered references (#31, #64, etc.) correspond to public comment submissions in the administrative record for the HyCast permit review.