

Note: This is a reference cited in AP 42, *Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources*. AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

| | |
|---------------------------|---|
| AP32 Section: | 12.5.1 |
| Background Chapter | 3 |
| Reference: | 15 |
| Title: | Source Sampling for Particulate Emissions, EAF Baghouse. Nucor Steel, Crawfordsville, IN. November 28, 1995. |

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

INDIANAPOLIS

Office Memorandum

To: Phil Perry

Date: February 5, 1995

From: Breck W. Schmidlkofer *BWS*Thru: Ed S. Surla *ES*

Subj: NUCOR Steel
 RR 2
 Crawfordsville, Indiana
 Source ID No. 107-00038

The subject company has submitted a report concerning PM compliance testing on the EAF Baghouse. During testing, one EAF and the AOD were in operation. The test was conducted on November 28, 1995, by RAMCON Environmental Corporation. The protocol was reviewed by Steve Friend as well as the test observation. The purpose of the testing was to demonstrate compliance with operating conditions. Test methods used were 1-4, 5D, and 9. I have reviewed this report and found the results to be acceptable to this Office. A copy of the test report is filed in the Compliance Data Section. The following is a summary of the test results:

EAF Baghouse

| | |
|---|-----------------|
| Maximum Permitted Rate(1 EAF and AOD): | 282 ton/hr |
| Average Rate During Test: | 131.2 ton/hr |
| Average Measured Emissions: | 0.00166 gr/dscf |
| Allowable Emissions: | 0.0018 gr/dscf |
| Allowable Emissions (NSPS subpart AAa): | 0.0052 gr/dscf |
| Opacity (6-min average) | 0% |
| Average Opacity: | 0% |

Note: All three test runs performed on the EAF Baghouse failed to be sampled isokinetically. The isokinetic results for the three runs were 88.5%, 86.4%, and 86.3%. These isokinetic results were acceptable based on EPA guidance for evaluating compliance test results when isokinetics are not within the acceptable range.

Note: The operating capacity during the test was only 47% of the permitted capacity. This is because of the new nature of the process. We are conditionally accepting this test series but requesting that NUCOR test again in six months at maximum capacity.

CC: Wanda Stanfield
 Breck Schmidlkofer
 General File -- Montgomery County

II. TEST RESULTS

The test results are summarized in Tables A and B. Each summary table lists the test results in concentration and emission levels for each target pollutant. The concentrations are reported in terms of grains per dry standard cubic foot (gr/dscf). The emission levels are reported in terms of pounds per hour (lb/hr).

**Table A — Acid Regeneration Unit
Particulate and HCl Test Summary
November 29, 1995**

| Run | Time | Particulate | | | Hydrogen Chloride | |
|-------------------|---------------|-------------|-------|--------------------------|-------------------|-------|
| | | gr/dscf | lb/hr | Isokinetics | gr/dscf | lb/hr |
| 1 | 18:05 - 19:07 | 0.0498 | 1.16 | 102.0 | 0.0290 | 0.67 |
| 2 | 19:36 - 20:40 | 0.0878 | 2.04 | 99.7 | 0.0351 | 0.81 |
| 3 | 21:05 - 22:08 | 0.0267 | 0.61 | 103.3 | 0.0537 | 1.22 |
| Average: | | 0.0548 | 1.27 | | 0.0393 | 0.90 |
| Allowable: | | | 2.00 | Source is in compliance. | | |

**Table B — EAF Baghouse
Particulate Matter Test Summary
November 28, 1995**

| Run | Time | gr/dscf | lb/hr | Isokinetics |
|-------------------|---------------|---------|--------------------------|-------------|
| 1 | 12:39 - 17:02 | 0.0019 | 16.92 | 89.4 |
| 2 | 13:06 - 17:09 | 0.0016 | 14.20 | 88.8 |
| 3 | 17:51 - 21:56 | 0.0015 | 13.34 | 89.0 |
| Average: | | 0.0017 | 14.82 | |
| Allowable: | | 0.0018 | Source is in compliance. | |

‡The isokinetics on this source were determined to be fractionally below the $\pm 10\%$ established by EPA. Since low isokinetics bias the test results high and the facility is below the 0.0018 gr/dscf allowable, RAMCON Environmental recommends the test to be accepted.