AP32 Section:	12.5.1
Background Chapter	3
Reference:	19
Title:	Source Sampling for Particulate and Visible Emissions, EAF Baghouse. Permit No. CP-107- 5235. Nucor Steel, Crawfordsville, IN. June 6, 1997.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Indianapolis

OFFICE MEMORANDUM

To: Phil Perry

Date: December 19, 1997

From: Jarrod C. Fisher JCF

Thru: Ed Surla

Subject: Nucor Steel
Crawfordsville, Indiana
EAF Baghouse
Source ID No. 107 00038

The subject company has submitted a report concerning particulate emissions of the EAF baghouse. Method 5D/202 sampling was conducted on June 3, 1997 by Ramcon Environmental Corporation. The purpose of the sampling was to determine the compliance status of the facility with regards to permit conditions. The test protocol was approved by Steve Friend, and the test was observed by Steve Friend. I have reviewed this report and found the sampling procedures used and 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 Production Rate:	502 tons/hr
Average Production Rate:	247.8 tons/hr (See Note)
Average Measured Emissions PM:	0.0017 gr/dscf
Allowable Emissions PM:	0.0018 gr/dscf
Highest 6-Minute Opacity:	0%
Average Opacity:	0%
Average Particulate Emissions Rate:	18.04 lbs/hr
Average condensible particulate matter (CPM):	26.52 lbs/hr

STATUS: **In Compliance**

Note: Nucor operated both Electric Arc Furnaces and the Argon Oxygen Decarburization vessel at the maximum they could achieve. The permitted maximum capacity was modeled to allow Nucor to increase their production after increasing the efficiency of the EAF/AOD operations. Nucor has stated that they cannot run at 502 tons/hour at this time. They are currently recording production data. Nucor has agreed to retest the EAF baghouse when they sustain a production rate 5% higher than demonstrated in this test report. Nucor will inform IDEM when they reach a production of 275 tons/hour and will commence the 60 days notice for a stack test. If scheduling becomes a problem for Nucor, IDEM has agreed to waive the 35-day notice and allow a two week notice for the stack test.

cc: J. Fisher
WPS/General Files, Montgomery Co.

RAMCON

Environmental Corporation

Regional Offices:
Philadelphia, Pennsylvania
Houston, Texas

Source Sampling for Particulate and Visible Emissions

EAF BAGHOUSE
Permit No. CP-107-5235

NUCOR STEEL
CRAWFORDSVILLE, INDIANA
June 6, 1997

Dave Sulc, Engineer
Nucor Steel

Raymond R. Jenkins
Vice President-Operations
RAMCON Environmental Corporation

Corporate Office: RAMCON Building • 6707 Fletcher Creek Cove • Memphis, Tennessee 38133-7055
Telephone: 800/458-4567 • in Tennessee: 901/387-0500 • FAX: 901/387-0400

I. INTRODUCTION

On June 6, 1997, personnel from RAMCON Environmental Corporation conducted a source emissions test for Nucor Steel pursuant to permit no. CP-107-5235 on the EAF Baghouse at your facility located in Crawfordsville, Indiana. The testing was performed for particulate and visible emissions.

The particulate matter was sampled according to US EPA Reference Method 5D. The stack gas moisture, velocity, and volumetric flow rates were also determined during this isokinetic sampling procedure. This data enabled conversion of flue gas pollutant concentrations to emission data values in pounds per hour (lb/hr).

The purpose of the test project was to determine if the particulate emissions from this source are equal to or below the allowable emission limitation established by the appropriate regulatory authorities. The calculations of these test results are provided in a later section.

II. TEST RESULTS

A. Discussion of Results:

The particulate and condensible fraction results for the baghouse are reported in Table A below in terms of concentration, grains per dry standard cubic foot (gr/dscf), and emissions, pounds per hour (lb/hr), values. The allowable emissions limit is .0018 gr/dscf so the source is operating in compliance with emissions standards.

Table A –Baghouse

Particulate and HCl Emissions Test Results

June 6, 1997

Test Run	Time	Particulate		
		gr/dscf	lb/hr	Isokinetics, %
1	12:34 to 16:26	0.0012	12.33	95.4
2	20:52 to 00:44	0.0018	17.20	106.4
3	12:39 to 16:41	0.0017	17.82	103.1
4	12:54 to 1:02	0.0022	22.74	103.6
	Average:	0.0017	17.67	