AP32 Section:	12.5.1
Background Chapter	3
Reference:	46
Title:	Summary of stack test results for Nucor Steel (Darlington SC). Testing conducted on July 17, 1990; February 5-6, February 28, July 23, 1991; September 18, October 27, and December 10, 1992; November 2-3, 1994; February 15-16, 1995; February 25-26, 1997; February 23-24, 1999; January 16 and November 13-15, 2001. Received from Anthony Keeler, South Carolina Department of Health and Environmental Control on September 16, 2002.

Permit No. 0820-0001
ID No. CC

Nucor Steel Corporation
Ladle Metallurgical Facility
Darlington, S. C.
Test Date : 7-17-90

Particulate Emissions

Test No.	Production tn/hr	Emissions gr/dscf	Emissions lbs/hr	Limit lbs/hr
1.	60	0.011	2.84	40.35
2.	60	0.007	1.66	40.35
avg.	60	0.009	2.25	40.35

Operation Notes

1. The average pressure drop across the baghouse was 7" water.
2. The average ladle process weight is 30 to 35 tons.
3. An average of two ladles were processed during each test.
4. A furnace explosion ended testing after two test runs.

Compliance Status

Permit No. 0820-0001-CC, II. Special Conditions A. (PM) - - - - - Compliance

Joe H. Tallon
8-17-90

cc: Jake Frick
W. P. Brantley
Robert Brown
Don Smith, Pee Dee Dist.

South Carolina
DHEC
Department of Health and Environmental Control

August 17, 1990

Nucor Steel Corporation
P.O. Box 525
Darlington, South Carolina 29532
Attention: Mr. W. E. Dauksch

A summary of the results of the recent source tests at the indicated facility is enclosed.

This summary includes the emission rates, operating parameters and compliance status of the source(s) tested.

Please review this data and if I can be of further assistance in these matters please call.

Very truly yours,

Joe H. Tallon
Division of Engineering Services
Bureau of Air Quality Control

Enclosure

cc: Jake Frick
W. P. Brantley
Robert Brown
Don Smith, Pee Dee Dist.

Nucor Steel Corp.
#2 Meltshop Baghouse Exhaust
Darlington, S.C.
RESULTS - TESTS OF Feburary 5-6, 1991

PERMIT NO. 0820-0001
ID NO. 4

'ARTICULATE:

Test #	Production Rate tons/hr	Emissions lbs/hr	Emissions gr/dscf	Allow. Emissions gr/dscf
1	32.8	3.85	0.0012	0.0052
2	36.8	2.93	0.0009	0.0052
3	34.5	4.95	0.0014	0.0052
Avg.	34.7	3.91	0.0012	0.0052

ATION NOTES:

1 . Unit rated at 40 tons per heat.
2 . The production rate is given as tons/heat.
3 . Flows were taken on the inlet to the baghouse.

'ATUS AS TESTED:

CFR 60.272, Subpart AA, (Particulate).....COMPLIANCE

Report Received: 09-26-91
Review Completed: 01-21-1992
Reviewer: Roland O. Shaw

R. Shaw

: Jake Frick
W. P. Brantley
Robert Brown
Don Smith, Pee Dee Dist.

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

January 21, 1992

Nucor Steel Corporation
P.O. Box 525
Darlington, South Carolina 29532
Attention: Mr. W. E. Dauksch

A summary of the results of the recent source tests at the indicated facility is enclosed.

This summary includes the emission rates, operating parameters and compliance status of the source(s) tested.

Please review this data and if I can be of further assistance in these matters please call.

Very truly yours,

Roland O. Shaw
Division of Engineering Services
Bureau of Air Quality Control

Enclosure

cc: Jake Frick
W. P. Brantley
Robert Brown
Don Smith, Pee Dee Dist.

0820-0001-ID #01-03

Nucor Steel
#1 Melt Shop (EAF #1-3, ID #01-03)
Particulate Emissions Tests
Darlington, S.C.
September 18, 1992

PARTICULATE EMISSIONS:

Run #	Production tons/hr	Emissions grs/DSCF	Emissions lbs/hr	Allowable Emissions lbs/~~hr~~ hr
1.	36.7	0.0052	12.77	55.8
2.	36.7	0.0077	18.83	55.8
3.	36.7	0.0020	4.94	55.8
avg	36.7	0.0050	12.18	55.8

OPERATION NOTES:

1. During each run six of the eighteen modules were sampled (two traverses, each with four points) so that all modules were tested. The test method should be considered a modified EPA method 5.
2. The allowable PM emission rate is based on the total of the three EAF listed allowables.
3. The baghouse pressure drop readings are not available.
4. The lbs/hr numbers are based on the air flows measured from the compartments. When the measured air flow values for the baghouse inlet duct work are used the average lbs/hr number is 5.23.
5. Feed material during testing was 60% #2 scrap, 10% turnings, 10% shredded scrap and 20% #1 scrap with bushings.

INDICATED STATUS:

BAQC Permit #0820-0001 ID #01-03 (particulates).....compliance

Robert J. Brown, Jr. RJB
10/9/92

cc: Jake Frick, BAQC
Phil Brantley, BAQC
Don Smith, Pee Dee District EQC Office

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

October 9, 1992

Nucor Steel Corporation
Darlington, S.C. 29532
Attn: Mr. Walter Postlethwait

RE: Stack Test of the Nucor Steel #1 Melt Shop (EAFs #1-3)

Dear Mr. Postlethwait:

Enclosed please find our summary of the source tests on the above referenced facility. This summary includes the emission rates, operating parameters and compliance status of the unit tested.

Please review this data and contact me at 734-4528 if you have any question in this matter.

Very truly yours,

Robert J. Brown, Jr.
Engineering Services Division
Bureau of Air Quality Control

enclosure

cc: Jake Frick, BAQC
Phil Brantley, BAQC
Don Smith, Pee Dee District EQC Office

Nucor Steel Corporation
#1 Melt Shop
Darlington, SC 29532 Permit NO. 0820-0001
RESULTS - TESTS OF October 27, 1992 ID NO. 01-03

PARTICULATE:

Test #	Production Rate Tons/hr	Emissions gr/dscf	Emissions lbs/hr	Allow. Emissions lbs/hr
1	41.0	2.8100	6835.82	55.8
2	41.0	.0039	10.07	55.8
3	41.0	.0866	226.09	55.8
Avg.	41.0	.9668	2357.33	55.8

VISIBLES:

Test #	1	2	3	Total
No. of 6 Min. Sets.	6	0	0	6
Sets greater than Std.	0	-	-	-
Average Opacity - %	5	-	-	-
Set max/min opacity - %	20/0	-	-	-

OPERATION NOTES:

1. During each run 6 of the modules were tested so that all eighteen were tested.
2. The allowable PM emission rate is based on the total of the three EAF listed allowables.
3. Feed material during testing was 20% shredded, 30% plate and structural and #1, 15% #2, 15% bushlings, 20% remelt, Scrap as rolled product.
4. The baghouse pressure drop readings were available.

STATUS AS TESTED:

BAQC Permit #0820-0001 ID #01-03 (Particulate).....VIOLATION
BAQC Permit #0820-0001 ID #01-03 (Visibles).....COMPLIANCE

Report Received: 12-14-92
Report Reviewed: 12-21-92
Reviewer: Randall K. Tilford RT

cc: Jake Frick
W. P. Brantley
D. Fleming
Don Smith, Pee Dee District

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

December 21, 1992

Nucor Steel Corporation
P.O. Box 525
Darlington, South Carolina 29532
Attention: Mr. W. E. Dauksch

A summary of the results of the recent source tests at the indicated facility is enclosed.

This summary includes the emission rates, operating parameters and compliance status of the source(s) tested.

Please review this data and if I can be of further assistance in these matters please call.

Very truly yours,

Randall K. Tilford

Randall K. Tilford
Division of Engineering Services
Bureau of Air Quality Control

Enclosure

cc: Jake Frick
W. P. Brantley
D. Fleming
Don Smith, Pee Dee District

Nucor Steel
#1 Melt Shop Baghouse Exhaust
Darlington, S.C.
RESULTS - TESTS OF 12-10-92
Permit No. 0820-0001 ID No. 01-03

PARTICULATE:

Test #	Production Rate tons/hr	Emissions gr/dscf	Emissions lb/hr	Allow. Emissions lb/hr
1	39.3	0.0075	12.10	55.80
2	39.3	0.0054	9.01	55.80
3	39.3	0.0019	3.05	55.80
Avg.	39.3	0.0049	8.05	55.80

OPERATION NOTES:

1. During each run six of the eighteen modules were sampled. This method should be considered a modified EPA method 5.
2. The allowable emission rate is based on the total of the three EAF listed allowables.
3. No baghouse pressure readings were taken.
4. Feed material during testing was Plate and Structural 47%, #2 35%, Bushling 10%, Shredded 5%, and Turnings 3%.

STATUS AS TESTED:
BAQC Permit #0820-0001 ID #01-03.....COMPLIANCE

Report Received: 1-5-92
Review Completed: 1-6-92
Reviewer: Randall K. Tilford

cc: Jake Frick
W. P. Brantley
Robbie Brown
Don Smith, Pee Dee District

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

January 06, 1992

Nucor Steel Corporation
P.O. Box 525
Darlington, South Carolina 29532
Attention: Mr. Wally Postlethwait

A summary of the results of the recent source tests at the indicated facility is enclosed.

This summary includes the emission rates, operating parameters and compliance status of the source(s) tested.

Please review this data and if I can be of further assistance in these matters please call.

Very truly yours,

Randall K. Tilford
Division of Engineering Services
Bureau of Air Quality Control

Enclosure

cc: Jake Frick
W. P. Brantley
Robbie Brown
Don Smith, Pee Dee District

Nucor Steel
Darlington, SC
No. 2 Reheat Furnance
February 28, 1991

0820-0001
CD

NOx Test (Method 7E)

Run #	Flow scfm	Concentration ppm	NOx Emissions lbs/hr	tons/yr
1	12573	196	17	77
2	12573	235	21	92
3*	12167	59	5	23

*air recirculated

Notes:
1. Air recirculating system not operating during runs 1&2--air recirculating system operating during run # 3. Computer oxygen reading 21% when recirculating system is off, and oxygen reading is approx. 14% when recirculation system is on. Typical operation has gases being recirculated.
2. No traverse velocity readings from south stack; all traverse velocity readings taken from the north stack.
3. Cold billets being run during the test. Furnace capacity 62 billets.
4. All runs were erratic--operator records show approx. 1 hour 50 minutes down time during the test period.
5. Steel production during the test period was atypical, according to plant personnel.

Status as Tested:

CP# 0820-0001 IIA (NOx)----------Undetermined

Thomas L. Lathan
Report rec'd 4-18-91
Report completed 4-29-91

cc: Jake Frick
W. P. Brantley
Robert J. Brown
Don Smith, Pee Dee Dist.

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

April 29, 1991

Nucor Steel Corporation
P.O. Box 525
Darlington, South Carolina 29532
Attention: Mr. W. E. Dauksch

A summary of the results of the recent source tests at the indicated facility is enclosed.

This summary includes the emission rates, operating parameters and compliance status of the source(s) tested.

Please review this data and if I can be of further assistance in these matters please call.

Very truly yours,

Thomas L. Lathan

Thomas L. Lathan
Division of Engineering Services
Bureau of Air Quality Control

Enclosure

cc: Jake Frick
W. P. Brantley
Robert J. Brown
Don Smith, Pee Dee Dist.

Nucor Steel
No.2 Reheat Furnace
Darlington, South Carolina
RESULTS OF TEST ON July, 23, 1991

Permit No. 0820-0001
I.D. No. CD

NOx Emissions:

Test No.	ERG Status	NOx Emissions ppm	Stack Flowrate cuft/min	NOx Emissions lbs/hour	NOx Emissions tons/year	Allowable NOx Emissions lbs/hour	Allowable NOx Emissions tons/year
1	ON	47.4	12932.2[1]	4.3	18.9	13.7	39.9
2	ON	43.1	12932.2[1]	3.9	17.2	13.7	39.9
3	OFF	394.6	20458.8[2]	56.8	248.9	13.7	39.9
4	OFF	437.3	20458.8[2]	62.9	275.9	13.7	39.9

[1]Based on flow from South stack, no flow in North stack during test.
[2]Based on flow from total of North and South stacks.

OPERATION NOTES:

1. Production averaged 40 tons per hour during testing.
2. Flows were conducted during middle of each run. With ERG "ON" no flow was seen in the North stack. With ERG "OFF", flow was seen in both the North and South stacks.

STATUS AS TESTED:
Permit No. 0820-0001, Section II, A (ERG ON).....COMPLIANCE
Permit No. 0820-0001, Section II, A (ERG OFF).....VIOLATION

Report Recieved: 08-12-91
Review Completed: 08-26-91
Reviewer: Raymond E. Bishop

cc: Jake Frick
W.P. Brantley
Robert J. Brown, Jr.
Don Smith, Pee Dee District

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

August 26, 1991

Nucor Steel
P.O. Box 525
Darlington, South Carolina 29532
Attention: Mr. Walter Postlethwit

A summary of the results of the recent NOx test at your No.2 Reheat furnace facility is enclosed.

This summary includes the emission rates, operating parameters, and compliance status of the source.

Your permit will reflect the amount of time your ERG must be on. Any questions concerning the period of time the ERG must be "ON" should be directed to Robert Brown, Jr. (803) 734-4528.

Please review this data and if I can be of further assistance in these matters please call. (803) 935-6313

Very truly yours,

Raymond S Bishop

Raymond E. Bishop
Division of Engineering Services
Bureau of Air Quality Control

Enclosure

cc: Jake Frick
W.P. Brantley
Robert J. Brown, Jr.
Don Smith, Pee Dee District

Nucor Steel Corp.
Melt Shop #3 Baghouse
Darlington, South Carolina
RESULTS - TESTS OF November 2 - 3, 1994

PERMIT NO. 0820-0001
ID NO. 0

PARTICULATE:

Test #	Production Rate tons/hr	Emissions gr/dscf	Emissions lbs/hr	Allow. Emissions lbs/hr
1	90.7	0.00085	3.31	22.29
2	99.5	0.00171	6.72	22.29
3	99.5	0.00114	4.00	22.29
Avg.	96.6	0.00123	4.68	22.29

VISIBLES:

Test #	1	2	3	TOTAL
No. of 6 Min. Sets	5	5	5	15
Sets greater than stand.	0	0	0	0
Average opacity - %	0	0	0	0 (Avg.)
Set max/min opacity - %	0/0	0/0	0/0	-

OPERATION NOTES:

1. Hot gas fans prone to failure during testing.
2. Melt Shop canopy does not adequately capture EAF emissions.
3. Roof vent opacity limits exceeded during testing.

STATUS AS TESTED:

SC Permit Condition II., Para. A (Particulate).....COMPLIANCE
SC Permit Condition II., Para. A. (Opacity).....COMPLIANCE

Report Received: 12-21-94
Review Completed: 01-06-1995
Reviewer: Patrick Turner

cc: Jake Frick
W.P. Brantley
Robert J. Brown
Don Smith, Pee Dee Dist.
Main File

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

January 03, 1995

Nucor Steel Corporation
P.O. Box 525
Darlington, South Carolina 29532
Attention: Mr. Chad Prior

A summary of the results of the recent source tests at the indicated facility is enclosed.

This summary includes the emission rates, operating parameters and compliance status of the source(s) tested.

Please review this data and if I can be of further assistance in these matters please call.

Sincerely,

Patrick Turner
Division of Engineering Services
Bureau of Air Quality

Enclosure

cc: Jake Frick
W.P. Brantley
Robert J. Brown
Don Smith, Pee Dee Dist.
Main File

Nucor Steel Corp.
Melt Shop #3 Baghouse
Darlington, South Carolina
Results - Tests of February 15 and 16, 1995
Permit No. 0820-0001 CV

Method 5D

Test #	Production tons/hr	Capacity %	Emissions lbs/hr	Emissions gr/dscf	Allowable gr/dscf
1	109.2	99.2	1.046	0.00031	0.0052
2	95.5	86.8	1.514	0.00043	0.0052
3	102.8	93.5	0.740	0.00023	0.0052
Avg.	**102.5**	**93.2**	**1.100**	**0.00032**	**0.0052**

Capacity is base on 110 lbs/hr.

Emissions

Test #	CO Lbs/hr	Allowable Lbs/hr	NOx Lbs/hr	Allowable Lbs/hr
1	162.0		7.2	
2	210.0		14.4	
3	249.5		19.1	
Avg.	207.2	**600.0**	13.6	**22.0**

Visibles (Method 9)

Test #	ONE		TWO		THREE	
Emission pt.	B	M	B	M	B	M
No. of 6 Min. Sets	10	10	7	**	7	7
Sets greater than std.	0	0	0	**	0	0
Average Opacity %	0	0	0	**	0	0
Set Max/min %	0/0	0/0	0/0	**	0/0	1/0

B=Baghouse M=Melt shop

Status as Tested:

Permit # 0820-0001(PM, NOx,CO).....Compliance.
Permit # 0820-0001(Visibles).....Compliance.

Report Received: 3-17-95
Review Complete: 10-11-95
Reviewer: Robert W. Mitchum RWM

cc: Jake Frick
Jerry Chalmers
Ken Dulaney
Don Smith, Pee Dee District
Main File

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

October 13, 1995

Nucor Steel Corporation
P.O. Box 525
Darlington, South Carolina 29532
Attention: Mr. Chad Prior

A summary of the results of the recent source tests at the indicated facility is enclosed.

This summary includes the emission rates, operating parameters and compliance status of the source(s) tested.

Please review this data and if I can be of further assistance in these matters please call.

Sincerely,

Robert W. Mitchum

Robert W. Mitchum
Division of Engineering Services
Bureau of Air Quality

Enclosure

cc: Jake Frick
Jerry Chalmers
Kenneth A. Dulaney
Don Smith, Pee Dee EQC District
Main File

Nucor Steel Corporation
Darlington, South Carolina
#3 Melt Shop Baghouse
Results - Tests of February 25 and 26, 1997
Permit No. 0820-0001
Id. No CV

Particulate (Method 5D)

Test	Production	Capacity1	Emissions		Allowable	
#	Tons/hr	%	lbs/hr	gr/dscf	lbs/hr	gr/dscf
1	102.3	93.0	10.8	0.0031	22.0	0.0052
2	109.5	99.5	17.4	0.0049	22.0	0.0052
3	109.5	99.5	25.6	0.0076	22.0	0.0052
Avg.	**107.1**	**97.4**	**17.9**	**0.0052**	**22.0**	**0.0052**

1 Based on rated output of 110 tons/hr

Visibles (Method 9)				
Test #	1	2	3	Total
No. of 6 Min. Sets	10	5	na	15
Sets greater than std.	0	0	na	0
Average Opacity - %	0	0	na	0
Set Max/min opacity - %	0/0	0/0	na	0/0

Operational Notes
1. Control device is a positive pressure baghouse with 14 individual compartments.
2. Allowable for opacity from baghouse is 3%.
3. Volumetric flowrate averaged 470,732 ACFM
4. Pressure drop at inlet of baghouse averaged 5.7 and ranged from 4.8 to 6.5 inches of H2O.

Status as Tested:
Permit # 0820-0001(PM).....Compliance
Permit # 0820-0001(Visibles).....Compliance

Report Received: 3-26-97
Review Complete: 4-08-97
Reviewer: Robert W. Mitchum

cc: Jake Frick
Jerry Chalmers
Beth Boland
Larry Ragsdale
Don Smith, Pee Dee EQC District
Main File

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

May 26, 1999

Nucor Steel Corp.
Attn: Mr. Chad Prior
P O Box 525
Darlington, SC 29540

A summary of the results of the recent source tests on Nucor Steel's # 3 Melt Shop Baghouse are enclosed.

This summary includes the emission rates and the operating parameters of the source tested.

Be aware that the Subpart Aaa requires that 160 DSCF be measured and that this should be met on all subsequent tests.

Review this data and if I can be of any assistance do not hesitate to call me at (803) 898-4078.

Sincerely,

Michael G. Verzwyvelt
Air Compliance Management Division
Bureau of Air Quality

Enclosure
cc: Jerry Chalmers
Annie Richardson
Joe Eller
Don Smith, Pee Dee District
Dan McCombs, ATC
Mainfile

Nucor Steel Corporation
Darlington, South Carolina
3 Melt Shop Baghouse
Results-Tests of February 23-24, 1999
Permit No. 0820-0001
Id. No. CP

Particulate Method 5D

Test	Production	Capacity1	Emissions		Allowable	
#	Tons/hr	%	lbs/hr	gr/dscf	lbs/hr	gr/dscf
1	109.2	99.3	1.083	0.0003	22.0	0.0052
2	124.9	113.5	1.24	0.0004	22.0	0.0052
3	136.7	124.3	1.711	0.0005	22.0	0.0052
Avg.	123.6	112.4	1.345	0.0004	22.0	0.0052

1. Based on a rated capacity of 110 tons/hr.

Visibles (Method 9)

Test #	1	2	3
No. of 6 Min. Sets	10	20	N/A
Sets Greater than Std.	0	0	N/A
Average Opacity-%	0	0	N/A
Set Max/min Opacity-%	0/0	0/0	N/A

Operational Notes

1. Control device is a positive pressure baghouse with 14 compartments.
2. Volumetric flow rate averaged 442665 ACFM.
3. Pressure drop at the inlet of the baghouse avg. 4.9 and ranged from 3.3 to 6.7 inches WC.
4. Visibles were observed by plant personnel.

Status as Tested

40 CFR 60, Subpart AAa. 60.272a.(a).(1).....Compliance
40 CFR 60, Subpart AAa. 60.272a.(a).(2).....Compliance

Report Received: April 7, 1999
Report Reviewed: May 26, 1999
Reviewer: Michael Verzwyvelt

cc: Jerry Chalmers
Annie Richardson
Joe Eller
Don Smith, Pee Dee District
Mainfile

Nucor Steel Corporation
Darlington South Carolina
3 Melt Shop Baghouse Exhaust
Results - Tests of January 16, 2001
Permit # 0820-0001
ID: CP

Particulate: (Method 5D)

Run	Production	Capacity	Emissions		Allowable	
#	tons/hr	%	lbs/hr	gr/dscf	lbs/hr	gr/dscf
1						
2	110	100.0	10.37	0.003	22.29	.0058
3	104	95.0	11.23	0.003	22.29	.0058
Avg.	107	97.5	10.80	0.003	22.29	.0058

Rated capacity 110 tons/hr

Visibles (Method 9)

Test #	1	2	3
No. of 6 Min. Sets	x	10	10
Sets greater than std.	x	0	0
Average Opacity - %	x	0	0
Set Max/min opacity - %	x	'0/0	0/0

Operational Notes:

1. Run # 1 was excluded, results were atypical.
2. Volumetric flow rate averaged 500340 ACFM.
3. Control device is a positive pressure baghouse with 14 compartments.
4. Pressure drop at the inlet of the baghouse avg. 8.9 and ranged from 8.8 to 9.1 inches WC.
5. Visibles were observed by plant personnel.

Status as tested

40 CFR 60, Subpart Aaa. 60.272a.(a) (1) (Particulate).....Compliance
40 CFR 60, Subpart Aaa. 60.272a.(a) (1) (Visibles).....Compliance

Received : February 20, 2001
Report Completed : March 08, 2001
Reviewer: Roderick A. Moore

cc: Jake Frick
Annie Richardson
Joe Eller
Don Smith, Pee Dee District
Main File

D H E C
PROMOTE PROTECT PROSPER

00 Bull Street
Columbia, SC 29201-1708

March 08, 2001

Nucor Steel Corporation
P.O. Box 525
Darlington South Carolina 29540
Attn: Matt Kanes

A summary of the results of the recent test at the indicated facility is enclosed.

This summary includes the emission rates, operating parameters and compliance status of the source (s) tested.

Although this facility is operating within allowable particulate emission limits, we have noted a significant increase in the actual particulate emissions from 1.345 lbs/hr in 1999 to 10.8 lbs/hr in 2001. The average volumetric flow rate (ACFM) in 1999 was 442665 compared to 500340 in 2001. **Particulate emission increases of this magnitude may warrant maintenance and/or operational investigative work.**

Please review this data and if I can be of further assistance in these matters do not hesitate to call me at (803) 898-3276 or e-mail me at moorera@columb31.dhec.state.sc.us.

Sincerely,

Roderick A. Moore

Roderick A. Moore
Air Compliance Management Division
Bureau of Air Quality

Enclosure

CC: Jake Frick
Annie Richardson
Joe Eller
Don Smith, Pee Dee District
Main File

Nucor Steel Corporation
Darlington South Carolina
3 Melt Shop Baghouse Exhaust
Results - Tests of November 13-15, 2001
Permit # TV-0820-0001
ID: 01

Particulate: (Method 5D)

Run #	Production tons/hr	Capacity %	Emissions gr/dscf	Allowable gr/dscf
1	109	72.0	0.0006	0.0052
2	121	81.0	0.0005	0.0052
3	132	88.0	0.0004	0.0052
Avg.	120	80.3	0.0005	0.0052

Rated capacity 150 tons/hr

Visibles (Method 9)

Test #	1	2	3
No. of 6 Min. Sets	10	10	10
Sets greater than std.	0	0	0
Average Opacity - %	0	0	0
Set Max/min opacity - %	0/0	0/0	0/0

Operational Notes:

1. Volumetric flow rate averaged 500340 ACFM.
2. Control device is a positive pressure baghouse with 14 compartments.
3. Pressure drop at the inlet of the baghouse avg. 7.2 and ranged from 7.0 to 7.7 inches WC.
4. Visibles were observed by plant personnel.

Status as tested

40 CFR 60, Subpart Aaa. 60.272a.(a) (1) (Particulate).....Compliance
40 CFR 60, Subpart Aaa. 60.272a.(a) (2) (Visibles).....Compliance

Received : December 20, 2001
Report Completed : January 18, 2002
Reviewer: Roderick A. Moore

cc: Jake Frick
Annie Richardson
Joe Eller
Don Smith, Pee Dee District
Carol Boney
Main File

D H E C
PROMOTE PROTECT PROSPER
0 Bull Street
Columbia, SC 29201-1708

January 18, 2002

Nucor Steel Corporation
P.O. Box 525
Darlington, South Carolina 29540
Attention: Matt Kanes

A summary of the results of the recent source tests at the indicated facility is enclosed.

This summary includes the emission rates, operating parameters and compliance status of the source(s) tested.

Please review this data and if I can be of further assistance in these matters please call.

Sincerely,

Roderick A. Moore

Roderick A. Moore
Air Compliance Management Division
Bureau of Air Quality

Enclosure

cc: Jake Frick
Annie Richardson
Joe Eller
Carol Boney
Don Smith, Pee Dee District
Main File

NOTE: Draft determinations are marked with a " • " beside the RBLC ID.

Report Date: 09/17/2002 Control Technology Determinations (Freeform)

FACILITY INFORMATION : NUCOR STEEL- DARLINGTON COUNTY

RBLC Id:	*SC-0075
*Company Name:	NUCOR STEEL CORPORATION
*Plant Name:	NUCOR STEEL- DARLINGTON COUNTY
Plant County:	DARLINGTON
Plant Contact Name:	JOSEPH A. RUTKOWSKI
Plant Contact Address:	POST OFFICE BOX 525
Plant Contact City	DARLINGTON
Plant Contact State:	SC
Plant Contact Zip Code:	29532
Plant Contact Phone:	
Plant Contact Email:	
EPA Region:	4
Agency Code:	SC001
Agency Name:	SOUTH CAROLINA DEPT OF HEALTH & ENV CTRL
Agency Contact:	LARRY RAGSDALE
Agency Phone:	(803) 734-4750
Agency Email:	
*Permit/File No.:	0820-0001-CW
*SIC:	3312
NAICS:	
Airs Id:	
EPA Id:	
UTM Zone:	
X Coordinate:	
Y coordinate:	
Application Received Date:	05/08/1996 ACT
Permit Issuance Date:	01/08/1998 ACT
Start Up Date:	
Compliance Validation Date:	
Entry Date:	05/15/2002
Last Update:	09/12/2002
New or Modified:	M
Public Hearing:	YES
Fuel:	NATURAL GAS, PROPANE BACK-UP FUEL
Emission Sources:	MELT SHOP #3, ELECTRIC ARC FURNACE WITH A SHELL CAPACITY OF 160 TONS, LADLE METALLURGICAL FURNACE, FOUR STRAND CONTINUOUS CASTING MACHINE, REHEAT FURNACE #1 AND #2, 9 PIECES OF ANCILLARY EQUIPMENT; LADLE PRE-HEATERS #1-3, LADLE DRY OUT, VERTICAL HOLDING STATION, TUNDISH PRE-HEATERS #1-2, TUNDISH DRY OUTS #1-2.
Abatement:	MAIN BAGHOUSE, CASTER CANOPY, SIDE DRAFT HOOD, ROOF MONITORS, DIRECT SHELL EVACUATION SYSTEM, LOW NOX

	BURNERS
Narrative:	STEEL MILL
Notes:	PERMIT FOR INCREASE PRODUCTION FROM 110 BILLET TONS OF STEEL PER HOUR (BTPH) TO 150 BTPH. SUBJECT TO CONDITIONS AND EMISSIONS LIMITATIONS

PROCESS INFORMATION : NUCOR STEEL- DARLINGTON COUNTY

*Process:	ELECTRIC ARC FURNACE (EAF)
*Process Type:	81.006
*SCC Code:	3-04-007-01
Primary Fuel:	DC POWERED
Throughput:	160
Throughput Unit:	TONS
Compliance Verified:	No
Stack Testing:	No
Inspections:	No
Calculations:	No
Other Testing:	No
Other Testing Method:	
Process/Compliance Notes:	EMISSIONS FROM EAF ARE CAPTURED BY THE DIRECT SHELL EVACUATION SYSTEM (DSE) VIA THE CONSTEEL PROCESS AND AN OVERHEAD CANOPY. EACH OF THESE ARE DUCTED TO THE MAIN BAGHOUSE. CONSTEEL/WATER COOLED DUCT PROCESS CONSISTING OF SHAKER/CONVEYOR SYSTEM CONNECTED TO EAF THAT FEEDS SCRAP METAL TO THE FURNACE. PROCESS IS DUCTED TO THE MAIN BAGHOUSE. CONTINUOUS MONITORING REQUIRED FOR OPACITY ONCE PER DAY DURING REFINING AND MELTING PERIOD. MUST CHECK AND RECORD FAN MOTOR AMPS AND DAMPER POSITION OR INSTALL, CALIBRATE AND MAINTAIN A MONITORING DEVICE FOR VOLUMETRIC FLOW THROUGH SEPARATELY DUCTED HOODS ONCE PER SHIFT. MONTHLY OPERATIONAL STATUS INSPECTIONS OF EQUIPMENT IMPORTANT TO PERFORMANCE OF THE TOTAL CAPTURE SYSTEM. MONITOR 4TH HOLE DUCT DIFFERENTIAL PRESSURE OR EAF ONCE PER SHIFT. SHALL NOT BE OPERATED WITH A DEFECTIVE DELTA SECTION OR OTHER DISREPAIR THAT WILL SIGNIFICANTLY REDUCE THE EFFICIENCY OF THE DIRECT EVACUATION THROUGHT THE SCRAP PREHEATING SYSTEM.

POLLUTANT INFORMATION : NUCOR STEEL- DARLINGTON COUNTY - ELECTRIC ARC FURNACE (EAF)

*Pollutant	VE
*CAS Number:	VE
*Control Method Code:	A
*Control Method Description:	DIRECT SHELL EVACUATION SYSTEM, OVERHEAD CANOPY, DUCTED TO MAIN BAGHOUSE.

Number of Options

Considered:	
Rank of Option Selected:	
Emission Limit 1:	6
Emission Limit 1 Unit:	%
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	6
Emission Limit 2 Unit:	% OPACITY
Emission Limit 2 Condition:	
Standard Emission:	
Standard Emission Unit:	
Standard Emission Condition:	
*Emission Type:	
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

PROCESS INFORMATION : NUCOR STEEL- DARLINGTON COUNTY

*Process:	LADLE METALLURGICAL FURNACE (LMF)
*Process Type:	81.006
*SCC Code:	3-04-007-99
Primary Fuel:	AC POWERED
Throughput:	
Throughput Unit:	
Compliance Verified:	No
Stack Testing:	No
Inspections:	No
Calculations:	No
Other Testing:	No
Other Testing Method:	
Process/Compliance Notes:	EMISSIONS ARE CAPTURED BY A SIDE DRAFT HOOD AND DUCTED TO THE MAIN BAGHOUSE. ALLOYS ARE ADDED TO THE MOLTEN STEEL AT THE LMF AND MIXING TAKES PLACE VIA INERT GAS STIRRING. SUBJECT TO PSD.

POLLUTANT INFORMATION : NUCOR STEEL- DARLINGTON COUNTY - LADLE METALLURGICAL FURNACE (LMF)

*Pollutant	VE
*CAS Number:	VE
*Control Method Code:	
*Control Method Description:	
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	20
Emission Limit 1 Unit:	%
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	
Emission Limit 2 Unit:	
Emission Limit 2 Condition:	
Standard Emission:	20
Standard Emission Unit:	% OPACITY
Standard Emission Condition:	
*Emission Type:	P
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

PROCESS INFORMATION : NUCOR STEEL- DARLINGTON COUNTY

*Process:	FOUR STRAND CONTINUOUS CASTING MACHINE
*Process Type:	81.006
*SCC Code:	3-03-009-22
Primary Fuel:	
Throughput:	150
Throughput Unit:	BTPH STEEL
Compliance Verified:	No
Stack Testing:	No
Inspections:	No
Calculations:	No
Other Testing:	No
Other Testing Method:	
Process/Compliance Notes:	EMISSIONS FROM THE CASTER ARE CAPTURED BY A 30' BY 30' CANOPY WITH AIR CAPACITY OF 60,000 ACFM, AND DUCTED TO THE MAIN BAGHOUSE. SUBJECT TO PSD.

POLLUTANT INFORMATION : NUCOR STEEL- DARLINGTON COUNTY - FOUR STRAND CONTINUOUS CASTING MACHINE

*Pollutant	VE
*CAS Number:	VE
*Control Method Code:	A
*Control Method Description:	CANOPY DUCTED TO BAGHOUSE
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	20
Emission Limit 1 Unit:	%
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	
Emission Limit 2 Unit:	
Emission Limit 2 Condition:	
Standard Emission:	20
Standard Emission Unit:	% OPACITY
Standard Emission Condition:	
*Emission Type:	P
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

PROCESS INFORMATION : NUCOR STEEL- DARLINGTON COUNTY

*Process:	REHEAT FURNACE #1
*Process Type:	12.310
*SCC Code:	3-03-009-33
Primary Fuel:	NATURAL GAS
Throughput:	140000000
Throughput Unit:	BTU/H HEAT INPUT CAP
Compliance Verified:	No
Stack Testing:	No
Inspections:	No
Calculations:	No

Other Testing:	No
Other Testing Method:	
Process/Compliance Notes:	MAIN FUEL IS NATURAL GAS, PROPANE AS A BACK-UP. UTILIZES LOW NOX BURNERS. NATURAL GAS AND PROPANE USAGE IS RESTRICTED TO AN EQUIVALENT OF 1150 X 10^6 SCF PER YEAR AT ESTABLISHED BTU CONTENTS OF 1000 BTU/CF AND 90500 BTU/GALLON RESPECTIVELY. SUBJECT TO PSD.

POLLUTANT INFORMATION : NUCOR STEEL- DARLINGTON COUNTY - REHEAT FURNACE #1

*Pollutant	CO
*CAS Number:	630-08-0
*Control Method Code:	A
*Control Method Description:	
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	27.6
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	120.9
Emission Limit 2 Unit:	T/YR
Emission Limit 2 Condition:	
Standard Emission:	.197
Standard Emission Unit:	LB/MMBTU
Standard Emission Condition:	
*Emission Type:	P
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

*Pollutant	NOX
*CAS Number:	10102
*Control Method Code:	P
*Control Method Description:	LOW NOX BURNERS AND RECUPERATORS, FUEL RESTRICTIONS.

Number of Options

Considered:
Rank of Option Selected:
Emission Limit 1: 13.7
Emission Limit 1 Unit: LB/H
Emission Limit 1 Condition:
*Basis: BACT-PSD
*Percent Efficiency:
Emission Limit 2: 60
Emission Limit 2 Unit: T/YR
Emission Limit 2 Condition:
Standard Emission: .098
Standard Emission Unit: LB/MMBTU
Standard Emission Condition:
*Emission Type: P
CAP Cost of Control Equipment: $ 0
Annualized Cost:
O&M Cost:
Cost Effectiveness:
Cost Verified by Agency: No
Dollar Year Used In Cost Estimates:
Pollutant Notes:

*Pollutant OPACITY
*CAS Number: VE
*Control Method Code:
*Control Method Description:
Number of Options Considered:
Rank of Option Selected:
Emission Limit 1: 20
Emission Limit 1 Unit: %
Emission Limit 1 Condition:
*Basis: BACT-PSD
*Percent Efficiency:
Emission Limit 2:
Emission Limit 2 Unit:
Emission Limit 2 Condition:
Standard Emission: 20
Standard Emission Unit: % OPACITY
Standard Emission Condition:
*Emission Type: P

CAP Cost of Control

Equipment: $ 0
Annualized Cost:
O&M Cost:
Cost Effectiveness:
Cost Verified by Agency: No
Dollar Year Used In Cost Estimates:
Pollutant Notes:

*Pollutant SO2
*CAS Number: 7446-09-5
*Control Method Code: A
*Control Method Description:
Number of Options Considered:
Rank of Option Selected:
Emission Limit 1: .12
Emission Limit 1 Unit: LB/H
Emission Limit 1 Condition:
*Basis: BACT-PSD
*Percent Efficiency:
Emission Limit 2: .53
Emission Limit 2 Unit: T/YR
Emission Limit 2 Condition:
Standard Emission: .0009
Standard Emission Unit: LB/MMBTU
Standard Emission Condition:
*Emission Type: P
CAP Cost of Control Equipment: $ 0
Annualized Cost:
O&M Cost:
Cost Effectiveness:
Cost Verified by Agency: No
Dollar Year Used In Cost Estimates:
Pollutant Notes:

*Pollutant PM
*CAS Number: PM
*Control Method Code: A
*Control Method Description:
Number of Options Considered:
Rank of Option Selected:
Emission Limit 1: 2

Emission Limit 1 Unit:	LB/H
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	8.8
Emission Limit 2 Unit:	T/YR
Emission Limit 2 Condition:	
Standard Emission:	.01
Standard Emission Unit:	LB/MMBTU
Standard Emission Condition:	
*Emission Type:	P
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

PROCESS INFORMATION : NUCOR STEEL- DARLINGTON COUNTY

*Process:	MELTSHOP #3
*Process Type:	81.006
*SCC Code:	3-04-007-99
Primary Fuel:	NATURAL GAS
Throughput:	150
Throughput Unit:	BILLET TONS STEEL/H
Compliance Verified:	No
Stack Testing:	No
Inspections:	No
Calculations:	No
Other Testing:	No
Other Testing Method:	
Process/Compliance Notes:	MAX TOTAL YEARLY OUTPUT OF 1,314,000 BILLET TONS OF STEEL USING ROLLING AVG METHOD. SOURCE TESTS FOR PM, SO2, NOX, CO, VOCS, LEAD AND OPACITY SHALL BE CONDUCTED WITHIN 90 DAYS OF ACHIEVING THE FOLLOWING MONTHLY AVG RATES: 120 BTPH, 130 BTPH, 140 BTPH AND 150 BTPH. MAIN BAGHOUSE IS A POSITIVE PRESSURE, REVERSE AIR CLEANING TYPE WITH 3 MAIN FANS, 2 REVERSE AIR FANS. MAIN BAGHOUSE CONTROLS THE ELECTRIC ARC FURNACE DIRECT SHELL EVACUATION SYSTEM, LADLE METALLURGICAL FURNACE, AND THE CASTER CANOPY. NO MORE THAN 3 MAIN BAGHOUSE COMPARTMENTS WILL BE OFF LINE WITHOUT CURTAILMENT OF MELT SHOP OPERATIONS. TWO FANS WILL BE ON-LINE DURING NORMAL

PLANT OPERATIONS. DUST COLLECTED WILL BE KEPT ENCLOSED UNTIL REMOVED FROM PLANT SITE. FUGITIVE EMISSIONS FROM SLAG HANDLING SHALL BE MINIMIZED BY IMPLEMENTING PROPER HANDLING PROCEDURES.

POLLUTANT INFORMATION : NUCOR STEEL- DARLINGTON COUNTY - MELTSHOP #3

*Pollutant	CO
*CAS Number:	630-08-0
*Control Method Code:	A
*Control Method Description:	POSITIVE PRESSURE, REVERSE AIR CLEANING BAGHOUSE WITH 3 FANS, 2 REVERSE AIR FANS, DSE SYSTEM, CASTER CANOPY, RAFT HOOD ON LMF, AND ROOF MONITORS.
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	2.76
Emission Limit 1 Unit:	LB/T OF STEEL
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	414
Emission Limit 2 Unit:	LB/H, 1813.32 T/YR
Emission Limit 2 Condition:	
Standard Emission:	
Standard Emission Unit:	PPM @ 15% O2
Standard Emission Condition:	
*Emission Type:	F
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

*Pollutant	NOX
*CAS Number:	10102
*Control Method Code:	A
*Control Method Description:	POSITIVE PRESSURE, REVERSE AIR CLEANING BAGHOUSE WITH 3 FANS, 2 REVERSE AIR FANS, DSE SYSTEM, SIDE DRAFT HOOD ON LMF, CASTER CANOPY, AND ROOF MONITORS.
Number of Options Considered:	
Rank of Option Selected:	

Emission Limit 1:	.35
Emission Limit 1 Unit:	LB/T STEEL
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	52.5
Emission Limit 2 Unit:	LB/H, 229.95 T/YR
Emission Limit 2 Condition:	
Standard Emission:	
Standard Emission Unit:	PPM @ 15% O2
Standard Emission Condition:	
*Emission Type:	F
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

*Pollutant	PB
*CAS Number:	7439-92-1
*Control Method Code:	A
*Control Method Description:	POSITIVE PRESSURE, REVERSE AIR CLEANING BAGHOUSE WITH 3 FANS, 2 REVERSE AIR FANS, DSE, SIDE DRAFT HOOD ON LMF, ROOF MONITORS.
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	1.9
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	
Emission Limit 2 Unit:	
Emission Limit 2 Condition:	
Standard Emission:	
Standard Emission Unit:	
Standard Emission Condition:	
*Emission Type:	F
CAP Cost of Control Equipment:	$ 0

Annualized Cost:
O&M Cost:
Cost Effectiveness:
Cost Verified by Agency: No
Dollar Year Used In Cost Estimates:
Pollutant Notes:

*Pollutant	SO2
*CAS Number:	7446-09-5
*Control Method Code:	A
*Control Method Description:	POSITIVE PRESSURE REVERSE AIR CLEANING BAGHOUSE WITH 3 MAIN FANS AND 2 REVERSE AIR FANS. DSE SYSTEM, SIDE DRAFT HOOD ON LMF, CASTER CANOPY, AND ROOF MONITORS.
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	.2
Emission Limit 1 Unit:	LB/T OF STEEL
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	30
Emission Limit 2 Unit:	LB/H & 131.40 T/YR
Emission Limit 2 Condition:	
Standard Emission:	
Standard Emission Unit:	PPM @ 15% O2
Standard Emission Condition:	
*Emission Type:	F
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

*Pollutant	VE
*CAS Number:	VE
*Control Method Code:	A
*Control Method Description:	POSITIVE PRESSURE, REVERSE AIR CLEANING MAIN BAGHOUSE WITH 3 FANS AND 2 REVERSE AIR FANS, CASTER CANOPY, DSE, SIDE DRAFT HOOD OF LMF AND ROOF MONITORS.
Number of Options Considered:	
Rank of Option Selected:	

Emission Limit 1:	3
Emission Limit 1 Unit:	%
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	6
Emission Limit 2 Unit:	% FROM EAF OPERATION
Emission Limit 2 Condition:	
Standard Emission:	3
Standard Emission Unit:	% OPACITY
Standard Emission Condition:	
*Emission Type:	F
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

*Pollutant	VOC
*CAS Number:	VOC
*Control Method Code:	A
*Control Method Description:	POSITIVE PRESSURE, REVERSE AIR CLEANING MAIN BAGHOUSE, WITH 3 FANS, 2 REVERSE AIR FANS, DSE SYSTEM, SIDE DRAFT HOOD ON LMF, DSE, AND ROOF MONITORS.
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	.35
Emission Limit 1 Unit:	LB/T STEEL
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	52.5
Emission Limit 2 Unit:	LB/H, 229.95 T/YR
Emission Limit 2 Condition:	
Standard Emission:	.35
Standard Emission Unit:	LB/TON OF STEEL
Standard Emission Condition:	
*Emission Type:	F
CAP Cost of Control Equipment:	$ 0

Annualized Cost:
O&M Cost:
Cost Effectiveness:
Cost Verified by Agency: No
Dollar Year Used In Cost Estimates:
Pollutant Notes:

*Pollutant	PM
*CAS Number:	PM
*Control Method Code:	A
*Control Method Description:	POSITIVE PRESSURE REVERSE AIR CLEANING BAGHOUSE- 3 MAIN FANS, 2 REVERSE AIR FANS. UNCAPTURED FUGITIVES VENTED THRU ROOF MONITORS
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	.0052
Emission Limit 1 Unit:	GR/DSCF
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	51
Emission Limit 2 Unit:	LB/H, 223.4 T/YR
Emission Limit 2 Condition:	
Standard Emission:	.0052
Standard Emission Unit:	GR/DSCF
Standard Emission Condition:	
*Emission Type:	F
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

PROCESS INFORMATION : NUCOR STEEL- DARLINGTON COUNTY

*Process:	REHEAT FURNACE #2
*Process Type:	12.310
*SCC Code:	3-03-009-33
Primary Fuel:	NATURAL GAS
Throughput:	140000000
Throughput Unit:	BTU/H HEAT INPT CAP

Compliance Verified:	No
Stack Testing:	No
Inspections:	No
Calculations:	No
Other Testing:	No
Other Testing Method:	
Process/Compliance Notes:	NATURAL GAS IS MAIN FUEL, PROPANE AS BACK UP. UTILIZES LOW NOX BURNERS AND EXTERNAL FLUE GAS RECIRCULATION. NATURAL GAS AND PROPANE USAGE IS RESTRICTED TO AN EQUIVALENT OF 1095 X 10^6 SCF PER YEAR AS ESTABLISHED BTU CONTENTS OF 1000 BTU/CF AND 90500 BTU/GAL RESPECTIVELY. SUBJECT TO PSD.

POLLUTANT INFORMATION : NUCOR STEEL- DARLINGTON COUNTY - REHEAT FURNACE #2

*Pollutant	CO
*CAS Number:	630-08-0
*Control Method Code:	A
*Control Method Description:	
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	26.2
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	114.8
Emission Limit 2 Unit:	T/YR
Emission Limit 2 Condition:	
Standard Emission:	.187
Standard Emission Unit:	LB/MMBTU
Standard Emission Condition:	
*Emission Type:	P
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

*Pollutant	NOX

*CAS Number:	10102
*Control Method Code:	P
*Control Method Description:	LOW NOX BURNERS AND EXTERNAL FLUE GAS RECIRCULATION, FUEL RESTRICTIONS.
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	17.5
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	76.6
Emission Limit 2 Unit:	T/YR
Emission Limit 2 Condition:	
Standard Emission:	.125
Standard Emission Unit:	LB/MMBTU
Standard Emission Condition:	
*Emission Type:	P
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

*Pollutant	OPACITY
*CAS Number:	VE
*Control Method Code:	
*Control Method Description:	
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	20
Emission Limit 1 Unit:	%
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	
Emission Limit 2 Unit:	
Emission Limit 2 Condition:	
Standard Emission:	20

Standard Emission Unit: % OPACITY
Standard Emission Condition:
*Emission Type: P
CAP Cost of Control Equipment: $ 0
Annualized Cost:
O&M Cost:
Cost Effectiveness:
Cost Verified by Agency: No
Dollar Year Used In Cost Estimates:
Pollutant Notes:

*Pollutant SO2
*CAS Number: 7446-09-5
*Control Method Code: A
*Control Method Description:
Number of Options Considered:
Rank of Option Selected:
Emission Limit 1: .08
Emission Limit 1 Unit: LB/H
Emission Limit 1 Condition:
*Basis: BACT-PSD
*Percent Efficiency:
Emission Limit 2: .4
Emission Limit 2 Unit: T/YR
Emission Limit 2 Condition:
Standard Emission: .0006
Standard Emission Unit: LB/MMBTU
Standard Emission Condition:
*Emission Type: P
CAP Cost of Control Equipment: $ 0
Annualized Cost:
O&M Cost:
Cost Effectiveness:
Cost Verified by Agency: No
Dollar Year Used In Cost Estimates:
Pollutant Notes:

*Pollutant PM
*CAS Number: PM
*Control Method Code: A
*Control Method

Description:	
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	1.9
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	8.3
Emission Limit 2 Unit:	T/YR
Emission Limit 2 Condition:	
Standard Emission:	.01
Standard Emission Unit:	LB/MMBTU
Standard Emission Condition:	
*Emission Type:	P
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

PROCESS INFORMATION : NUCOR STEEL- DARLINGTON COUNTY

*Process:	ANCILLARY EQUIPMENT
*Process Type:	81.006
*SCC Code:	3-03-009-98
Primary Fuel:	NATURAL GAS
Throughput:	11000000
Throughput Unit:	BTU/H
Compliance Verified:	No
Stack Testing:	No
Inspections:	No
Calculations:	No
Other Testing:	No
Other Testing Method:	
Process/Compliance Notes:	ANCILLARY EQUIPMENT INCLUDES 9 PIECES: LADLE PRE-HEATERS #1, #2, & #3; LADLE DRY OUT, VERTICAL HOLDING STATION, TUNDISH PRE-HEATERS #1 & #2, AND TUNDISH DRY OUTS #1 & 32. EACH PIECE HAS RATED HEAT INPUT CAPACITY OF 11.0 X 10^6 BTU/H. ALL ANCILLARY EQUIPMENT USES NATURAL GAS AS MAIN FUEL AND PROPANE AS BACK UP AND LOW NOX BURNERS. NATURAL GAS AND PROPANE USAGE FOR ALL OF THE

9 PIECES OF EQUIPMENT IS RESTRICTED TO AN EQUIVALENT OF 831.6 X 10^6 SCF PER YEAR AT ESTABLISHED BTU CONTENTS OF 1000 BTU/CF AND 90500 BTU/GAL RESPECTIVELY. THESE UNITS ARE SUBJECT TO PSD.

POLLUTANT INFORMATION : NUCOR STEEL- DARLINGTON COUNTY - ANCILLARY EQUIPMENT

*Pollutant	OPACITY
*CAS Number:	VE
*Control Method Code:	
*Control Method Description:	
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	20
Emission Limit 1 Unit:	%
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	
Emission Limit 2 Unit:	
Emission Limit 2 Condition:	
Standard Emission:	
Standard Emission Unit:	
Standard Emission Condition:	
*Emission Type:	
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

PROCESS INFORMATION : NUCOR STEEL- DARLINGTON COUNTY

*Process:	MAIN BAGHOUSE DUST HANDLING SYSTEM
*Process Type:	81.006
*SCC Code:	3-03-009-98
Primary Fuel:	
Throughput:	
Throughput Unit:	

Compliance Verified:	No
Stack Testing:	No
Inspections:	No
Calculations:	No
Other Testing:	No
Other Testing Method:	
Process/Compliance Notes:	INCLUDES HOPPERS, SCREW CONVEYORS, PNEUMATIC CONVEYING SYSTEM, STORAGE SILO, AND LOADING OPERATION. SUBJECT TO PSD.

POLLUTANT INFORMATION : NUCOR STEEL- DARLINGTON COUNTY - MAIN BAGHOUSE DUST HANDLING SYSTEM

*Pollutant	OPACITY
*CAS Number:	VE
*Control Method Code:	A
*Control Method Description:	BAGHOUSE
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	10
Emission Limit 1 Unit:	%
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	
Emission Limit 2 Unit:	
Emission Limit 2 Condition:	
Standard Emission:	10
Standard Emission Unit:	OPACITY
Standard Emission Condition:	
*Emission Type:	F
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

PROCESS INFORMATION : NUCOR STEEL- DARLINGTON COUNTY

*Process:	EAF FLUX/ALLOY SYSTEM

*Process Type:	81.006
*SCC Code:	3-03-009-04
Primary Fuel:	
Throughput:	
Throughput Unit:	
Compliance Verified:	No
Stack Testing:	No
Inspections:	No
Calculations:	No
Other Testing:	No
Other Testing Method:	
Process/Compliance Notes:	CONSISTS OF FIVE STORAGE SILOS, CONTROLLED BY TWO BIN VENT FILTERS EACH RATED AT 1200 ACFM, AND ASSOCIATED FEED SYSTEMS. FLUX/ALLOY IS FED TO THE EAF. THERE IS A VALVE IN THE DUCTWORK THAT WHEN ENGAGED ALLOWS THE EAF FLUX/ALLOY SYSTEM TO BE VENTED THROUGH THE MAIN BAGHOUSE. SUBJECT TO PSD.

POLLUTANT INFORMATION : NUCOR STEEL- DARLINGTON COUNTY - EAF FLUX/ALLOY SYSTEM

*Pollutant	OPACITY
*CAS Number:	VE
*Control Method Code:	A
*Control Method Description:	BAGHOUSE, BIN VENT FILTER
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	20
Emission Limit 1 Unit:	%
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	
Emission Limit 2 Unit:	
Emission Limit 2 Condition:	
Standard Emission:	20
Standard Emission Unit:	% OPACITY
Standard Emission Condition:	
*Emission Type:	P
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No

Dollar Year Used In Cost Estimates:
Pollutant Notes:

*Pollutant	PM
*CAS Number:	PM
*Control Method Code:	A
*Control Method Description:	BIN VENT FILTERS, VENT TO BAGHOUSE.
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	.5
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	
Emission Limit 2 Unit:	
Emission Limit 2 Condition:	
Standard Emission:	
Standard Emission Unit:	GR/DSCF
Standard Emission Condition:	
*Emission Type:	P
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

PROCESS INFORMATION : NUCOR STEEL- DARLINGTON COUNTY

*Process:	LMF FLUX/ALLOY SYSTEM
*Process Type:	81.006
*SCC Code:	3-03-009-04
Primary Fuel:	
Throughput:	
Throughput Unit:	
Compliance Verified:	No
Stack Testing:	No
Inspections:	No
Calculations:	No
Other Testing:	No

Other Testing Method:	
Process/Compliance Notes:	CONSISTS OF FOUR STORAGE SILOS CONTROLLED BY TWO BIN VENT FILTERS, EACH REATED AT 1200 ACFM, AND ASSOCIATED FEED SYSTEMS. FLUX/ALLOY IS FED TO THE LMF. SUBJECT TO PSD.

POLLUTANT INFORMATION : NUCOR STEEL- DARLINGTON COUNTY - LMF FLUX/ALLOY SYSTEM

*Pollutant	OPACITY
*CAS Number:	VE
*Control Method Code:	A
*Control Method Description:	BIN VENT FILTERS
Number of Options Considered:	
Rank of Option Selected:	
Emission Limit 1:	20
Emission Limit 1 Unit:	%
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	
Emission Limit 2 Unit:	
Emission Limit 2 Condition:	
Standard Emission:	20
Standard Emission Unit:	% OPACITY
Standard Emission Condition:	
*Emission Type:	P
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	

*Pollutant	PM
*CAS Number:	PM
*Control Method Code:	A
*Control Method Description:	BIN VENT FILTERS
Number of Options Considered:	
Rank of Option Selected:	

Emission Limit 1:	.5
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Condition:	
*Basis:	BACT-PSD
*Percent Efficiency:	
Emission Limit 2:	
Emission Limit 2 Unit:	GR/DSCF
Emission Limit 2 Condition:	
Standard Emission:	
Standard Emission Unit:	
Standard Emission Condition:	
*Emission Type:	P
CAP Cost of Control Equipment:	$ 0
Annualized Cost:	
O&M Cost:	
Cost Effectiveness:	
Cost Verified by Agency:	No
Dollar Year Used In Cost Estimates:	
Pollutant Notes:	