Ohio | Environmental Protection Agency

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

Re: Marion County
Nucor Steel Marion, Inc.
Premise #0351010017
Notice of Violation
HPV-GC1, GC4

September 21, 2010

CERTIFIED MAIL

Mr. Dave Sumoski
Vice President and General Manager
Nucor Steel Marion, Inc.
912 Cheney Avenue
Marion, Ohio 43302

Dear Mr. Sumoski:

This letter shall serve as a follow-up to the Division of Air Pollution Control (DAPC) inspection conducted on September 7, 2010, at the above-mentioned facility by Mohammad Smidi and this writer. The purpose of the inspection was to determine the compliance status of all air contaminant sources located at the facility. Based on our discussions, our observations during the inspection and a review of the company's files, our findings are as follows:

1. Nucor Steel Marion, Inc. (Nucor) is currently operating a continuous caster (emissions unit P004), designed to cast molten steel into billets for further processing at the facility. A portion of the particulate emissions from this process is controlled by a baghouse, while the remaining amount is vented to the atmosphere through openings in the melt shop building enclosure. The continuous caster was originally an existing source, as defined in Ohio Administrative Code (OAC) rule 3745-15-01; and, as such, the company was not required to obtain a Permit to Install (PTI) previously.

   With the installation of a new transformer and the initial startup of the static var compensator (SVC) on August 30, 2008, as an upgrade to the power supply system for the Electric Arc Furnace (EAF, emissions unit P903), it was determined in a Notice of Violation (NOV) letter to Nucor, dated March 26, 2009, that the installation resulted in increased efficiencies and production capabilities for the EAF. As requested in the NOV, the company's response

included a compliance plan and Nucor has since submitted a permit application (correction received February 2, 2010) to address the major modification, as defined in OAC rule 3745-31-01(JJJ), to the EAF.

It was evident during the inspection that operation of the EAF limits the amount of steel processed through the continuous caster. Therefore, the modification to the EAF, as the result of the power supply upgrade, increases the material processed through the continuous caster; and it is ultimately modified also. Currently, the permit application to address the major modification does not include the continuous caster as an emissions unit being modified. Failure to obtain a permit modification prior to modifying an air contaminant source is a violation of OAC rule 3745-31-02 and Ohio Revised Code (ORC) Section 3704.05.

Nucor is required to provide a date when a revision to the current Prevention of Significant Deterioration (PSD) permit application will be submitted. It is required that this emissions unit be included within the same permit action.

2. Nucor is limited in the type and amount of certain scrap that can be received at the site and processed in the EAF by the Consent Order (Case NO. 02 CV 0053) filed on June 3, 2002. The Consent Order clearly outlines what is acceptable. Specifically, the company *"...shall melt no more than 10% (by weight per melt) of 'concerning' frag scrap in the Electric Arc Furnace. 'Concerning' frag scrap is that raw material used by the Defendant that is derived from shredded automobiles and large appliances."*

   Although our records review during the inspection only went back to mid-year 2008, it was evident that there were several occasions when a specific melt contained greater that 10% of "concerning" frag materials. Failure to comply with this restriction is a direct violation of the Consent Order. In addition, for each exceedance of the allowable percentage of "concerning" frag in any melt, Nucor is immediately liable for payment of stipulated penalties in accordance with Section VIII, Paragraph 9 and 11 of the Consent Order.

   In the response to this letter, the company is also required to provide each instance, including date, when the allowable "concerning" frag percentage was exceeded and the actual percentage of "concerning" frag for each instance, since the date the Consent Order was filed.

3. The company is required to monitor and record the pressure drop across the baghouse controlling emissions unit P903 on a once-per-shift basis, while the unit is in operation. Once again, our records review during the inspection only went back to mid-year 2008; and it was evident from the time period between June 11, 2008 and November 9, 2009, that the pressure drop observations were only being recorded once per day. The failures to properly record the

pressure drop readings by the required frequency are violations of the monitoring and recordkeeping requirements of the Title V operating permit, effective July 2, 2008, and ORC Section 3704.05.

Permit modification, PTI #03-16353, issued August 18, 2005 for emissions unit P903, contained the same requirement regarding the frequency for monitoring and recording the pressure drop across the baghouse. Again, records were not reviewed prior to mid-year 2008 and the company is required to provide the dates, since May 1, 2008, when the pressure drop readings were not recorded by the required frequency. In addition, Nucor is required to submit revised deviation reports, including Title V certifications, for any instance where the permit requirements were not met and were found to have not been previously reported, in the quarterly deviation reports.

Please note that the concern with the pressure drop readings was previously brought to the attention of Nucor in an inspection letter dated June 6, 2008.

4. As required by PTI #03-16353 (issued August 18, 2005) and most recently, the Title V operating permit, Nucor is required to perform daily, Method 9 observations for the baghouse control device and melt shop building associated with emissions unit P903. On November 9, 2009, the company began using a new/revised Method 9 observation form, which either meets or exceeds the minimum field record requirements for a valid Method 9 observation, as outlined in 40 Code of Federal Regulations (CFR) Part 60, Appendix A. However, prior to that date, the company was using a Method 9 observation form that did not meet the minimum field record requirements for the Method. Once again, our records review during the inspection only went back to mid-year 2008; and Northwest District Office (NWDO) is uncertain, at this point, how far back the company has been recording insufficient data to meet the field record requirements of the Method. The failures to note the minimum field records on the daily observation form are violations of the monitoring and recordkeeping requirements of the permit and ORC Section 3704.05.

   Nucor is required to provide the dates when valid Method 9 observations were not performed in accordance with the minimum required data of the Method, since May 1, 2008. In addition, Nucor is required to submit revised deviation reports, including Title V certifications, for all instances where the permit requirements were not met and were not previously reported in the quarterly deviation reports.

   Please note that the concern regarding performing valid Method 9 observations was previously brought to the attention of Nucor in an inspection letter dated March 17, 2006.

5. While reviewing records during the inspection, it was evident that were numerous deviations from the requirements of PTI #03-16353 and the Title V operating permit. The noted deviations included records indicating fan amperages outside the allowable range and damper positions not maintained at appropriate levels established in the most recent compliance demonstration, and days when the damper position is simply not recorded altogether. Likewise, many of the dates were provided in the corresponding deviation reports for the specific period, but there are also numerous dates when other deviations were noted by NWDO during the records review and these deviations were not reported in the quarterly deviation reports. As mentioned above, the records review during the inspection went back to mid-year 2008, and NWDO is uncertain of the amount of deviations that have gone unreported.

   NWDO requests that Nucor review the fan amperages and damper position log sheets, dating back to May 1, 2008, and determine the dates that deviations were noted and not reported to NWDO. In the response to this letter, the company is required to submit a list of these dates. In addition, Nucor is required to submit revised quarterly deviation reports, including Title V certifications, for all instances where the permit requirements were not met and were not previously reported in the quarterly deviation reports.

6. The most recent compliance demonstration for volatile organic compounds (VOCs) from emissions unit P903 was conducted on November 5, 2008. The results of the compliance testing indicated that the company is operating the EAF in exceedance of the allowable VOC emission limitation established in Nucor's Title V operating permit. In an NOV sent to the company, dated January 16, 2009 and following DAPC review of the stack test results, Nucor was required to provide NWDO with a response to the NOV that included a compliance plan for emissions unit P903, along with a commitment to perform additional VOC testing to show compliance with the allowable limitation. In the response, the company referenced the February 5, 2009 meeting between Nucor and NWDO where the results of the VOC emissions were discussed extensively, and Nucor contends that no final agreement was reached. However, NWDO respectfully disagreed with the position of the company at that time and continues to do so; and compliance testing for VOC emissions is still expected. To this point, Nucor has not provided NWDO with any proposed dates or plan for showing compliance with the allowable VOC emission rate. In the response to this letter, Nucor is required to provide a compliance plan and schedule for achieving compliance with the allowable VOC emission rate and for performing the emission testing necessary to demonstrate compliance.

7. The company has previously indicated that the emissions from the facility's scrap storage piles are at levels that qualify the emissions source for the "de minimis" permit exemption, as outlined in OAC rule 3745-15-05. However, based upon our observations during the inspection, NWDO questions the applicability of this permit exemption to this emissions unit due to the significant amount of particulate emissions observed from operations involving the scrap storage piles. Upon identifying our concerns with this operation at the inspection, the company mentioned an outside consultant was contacted recently and new emissions factors have been established to represent the emissions from these types of storage piles, but it was not known if the emissions would still be at "de minimis" levels. In addition, the company has indicated that the consultant has prepared a presentation for these emission factors and would like to set up a meeting with NWDO to discuss the issue further. Furthermore, in a meeting between the company and NWDO on July 8, 2010, Nucor agreed to provide emissions calculations and background information supporting the company's position on the "de minimis determination" as a follow-up to our conversations. To this date, NWDO has not received any information regarding emissions [including hazardous air pollutant (HAP) emissions] from these piles.

   Please note, in the event that it is determined a PTI application is necessary, it is required that the application be submitted as a correction to the PSD permit application mentioned above. In addition, Nucor has expressed interest in having a permit modification issued prior to the end of the 2010 calendar year. Timely submission of storage pile emissions information (including HAP emissions) is critical in order to have the application processed by the desired date.

8. Nucor currently operates a 184 mmBtu/hr natural gas fired reheat furnace (emissions unit P009) to complete the processing of the production steel. The requirements for operation of this unit include installing a continuous emissions monitor (CEM) for determining nitrogen oxide (NOx) and carbon monoxide (CO) emissions. In spite of several lengthy discussions between Nucor and NWDO regarding the difficulty of installing a CEM system on the current configuration of the reheat furnace exhaust stacks, the CEM system has not yet been installed.

   To show compliance with the emissions limitations established in PTI #03-17377, issued October 30, 2007, and most recently the Title V operating permit, the company began submitting monthly reports that specify the gas usage and resulting emissions. However, NWDO has no record of the company submitting any reports pertaining to the reheat furnace following December 2008. Therefore, in the event that Nucor can provide gas usage and emissions information dating back to January 2009, NWDO is requesting

that the company submit the data in the response to this letter. In addition, NWDO requests that the company continue this monthly practice until the CEM issue is resolved or a permit modification is issued indicating an alternative method of showing compliance.

9. Nucor submitted a copy of the Compliance Assurance Monitoring (CAM) plan as an attachment to a letter addressed to Ohio EPA and U.S. EPA, dated June 27, 2008. From the date indicated on the plan, it appears that this plan was developed (or most recent revision was done) in October 2006. Since compliance testing for particulate emissions has been performed and demonstrated since that date, NWDO requests that the company revise this plan and specify the appropriate operating ranges based upon the parameters observed during the most recent compliance test. Nucor is required to submit the revised CAM plan along with the response to this letter.

10. During the inspection, it was not clear to NWDO how the company is determining the "operating hours" of the EAF. As you are fully aware, Nucor is required to monitor and record the daily production and hours of operation of the EAF, and calculate a tons per hour production rate from the EAF (based upon the EAF operating hours) during a daily, 24-hour period. The Title V operating permit also contains an average hourly operational restriction of 70 tons. Therefore, any disparity in the "operating hours" determination can significantly affect compliance with the average production rate restriction of the EAF.

    Upon our request, daily production and operating hours data were provided to NWDO for further review following the inspection. On most of the dates provided, it appears the operating hours are equivalent to the hours of shift-work completed and may also include any elapsed time where the EAF was not in "operation". Therefore, NWDO requests that Nucor provide a detailed explanation for how the company is determining the "operating hours" for the EAF in the response to this letter.

    In addition, the production data provided to NWDO was compared to the production data that was given to a U.S. EPA inspector prior to the NWDO inspection. The results of the comparison found discrepancies in the listed operating hours and average hourly production rates. As such, Nucor is required to submit a detailed and complete explanation regarding these differences. A copy of the production information provided to each office during December 2009 is enclosed with this letter as a reference.

NWDO is requesting that Nucor submit a written response to this letter, along with any supporting documentation to the items mentioned above, by no later than October 22, 2010. Please be advised that the submission of information to respond to this letter

does not constitute waiver of the Ohio EPA's authority to seek civil penalties for violations pursuant to Ohio Revised Code Section 3704.06. The Ohio EPA will make a decision whether to pursue such penalties regarding this matter at a later date.

At this time, I would like to thank all the individuals in the facility's environmental department, and any engineers who provided information, for the courtesy that was extended during our visit. If you have any questions and/or comments regarding this letter, please contact me electronically at brian.riedmaier@epa.state.oh.us or by phone at (419) 373-3110.

Sincerely,

Brian Riedmaier
Division of Air Pollution Control

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Enclosure

pc: Jim Orlemann, DAPC-CO
Tom Kalman, DAPC-CO
Erin Shalabe, DAPC-NWDO
Marcus Glasgow, Legal-CO
Gregg Bachmann, Ohio Attorney General Office
Lisa Holscher, US EPA Region V
DAPC-NWDO Facility Correspondence File
Rebecca Kabat, Nucor Steel Marion, Inc.
7009 1680 0002 4297 4203

ec: Mark Budge, DAPC-NWDO
Tom Sattler, DAPC-NWDO
Jan Tredway, DAPC-NWDO
Mohammad Smidi, DAPC-NWDO
Mike Hopkins, DAPC-CO
Andrew Hall, DAPC-CO
Mike Mansour, DAPC-CO

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Dave Sumeski
Chief Mail Room
112 Cherry Avenue
Zip+4 Massillon OH 44646

PS Form 3800, August 2006 See Reverse for Instructions

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Mr. Dave Sumeski
Chief Mail Room
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PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

Recordingkeeping for Emissions Unit P903

Date	Hours Bonus	Hours Operating	Tons Steel Produced	Average Hourly Production Rate LIMIT= 70 TONS/HR
12/1/2009	22.5	24	791.5	32.98
12/2/2009	0	0	0.0	#DIV/0!
12/3/2009	23	24	584.4	24.35
12/4/2009	24	24	1,217.6	50.73
12/5/2009	0	0	0.0	#DIV/0!
12/6/2009	16	24	841.8	35.08
12/7/2009	18	24	881.8	36.74
12/8/2009	22.5	24	1,120.1	46.67
12/9/2009	13	16	732.8	45.80
12/10/2009	17	24	943.0	39.29
12/11/2009	19.5	24	1,061.9	44.25
12/12/2009	6	8	253.7	31.71
12/13/2009	19	24	1,082.0	45.08
12/14/2009	21	24	1,085.6	45.23
12/15/2009	22	24	1,074.9	44.79
12/16/2009	16	16	604.2	37.76
12/17/2009	22	24	1,269.9	52.91
12/18/2009	24	24	1,361.5	56.73
12/19/2009	20.5	24	1,072.8	44.70
12/20/2009	22	24	1,179.0	49.13
12/21/2009	5	5	268.5	53.70
12/22/2009	22.5	24	1,094.7	45.61
12/23/2009	16	24	698.3	29.10
12/24/2009	0	0	0.0	#DIV/0!
12/25/2009	0	0	0.0	#DIV/0!
12/26/2009	23	24	1,386.6	57.78
12/27/2009	21	24	1,332.3	55.51
12/28/2009	23	24	1,351.3	56.30
12/29/2009	22	24	1,161.3	48.39
12/30/2009	22	24	1,354.5	56.44
12/31/2009	20	24	1,047.9	43.66
Month End Rolling 12 Month	523	597	26,853.9	51.40

provided to Ohio EPA

Recordingkeeping for Emissions Unit P903

Date	Hours Operating	Hours Available	Tons Steel Produced	Average Hourly Production Rate LIMIT= 70 TONS/HR	
12/1/2009	22.5	24	791.5	35.18	32.98
12/2/2009	0	0	0.0	#DIV/0!	#DIV/0!
12/3/2009	23	24	584.4	25.41	24.35
12/4/2009	24	24	1,217.8	50.73	50.73
12/5/2009	0	0	0.0	#DIV/0!	#DIV/0!
12/6/2009	16	24	841.8	52.61	35.08
12/7/2009	18	24	881.8	48.99	36.74
12/8/2009	22.5	24	1,120.1	49.78	46.67
12/9/2009	13	16	732.8	56.37	45.80
12/10/2009	17	24	943.0	55.47	39.29
12/11/2009	19.5	24	1,061.9	54.46	44.25
12/12/2009	6	8	253.7	42.28	31.71
12/13/2009	19	24	1,082.0	56.95	45.08
12/14/2009	21	24	1,085.6	51.70	45.23
12/15/2009	22	24	1,074.9	48.86	44.79
12/16/2009	16	16	604.2	37.76	37.76
12/17/2009	22	24	1,269.9	57.72	52.91
12/18/2009	24	24	1,361.5	56.73	56.73
12/19/2009	20.5	24	1,072.8	52.33	44.70
12/20/2009	22	24	1,179.0	53.59	49.13
12/21/2009	5	5	268.5	53.70	53.70
12/22/2009	22.5	24	1,094.7	48.65	45.61
12/23/2009	16	24	698.3	43.64	29.10
12/24/2009	0	0	0.0	#DIV/0!	#DIV/0!
12/25/2009	0	0	0.0	#DIV/0!	#DIV/0!
12/26/2009	23	24	1,386.6	60.29	57.78
12/27/2009	21	24	1,332.3	63.44	55.51
12/28/2009	23	24	1,351.3	58.75	56.30
12/29/2009	22	24	1,181.3	52.79	49.39
12/30/2009	22	24	1,354.5	61.57	56.44
12/31/2009	20	24	1,047.9	52.40	43.66
Month End Rolling 12 Month	523	597	26,853.9	51.40	44.98

Monthly Metals Analysis

Pollutant	Baghouse Dust Analysis Weight Percent	Metal Weight Percent Not To Be Exceeded
Mg		0.03583
Mn		0.04613
Pb		0.01977
Zn		0.21396
Hg		0.000005

provided to US EPA