FEDERAL OPERATING PERMIT - TECHNICAL REVIEW SUMMARY
SITE OPERATING PERMIT (SOP) RENEWAL

Permit #:	**O1289**	Company:	**Nucor Corporation**
Project #:	**21833**	Site:	**Jewett Plant Steel Mill**
Account #:	**LG-0006-S**	Application Area:	**Nucor Steel - Jewett, TX Division**
Regulated Entity #:	**RN100211093**	Customer #:	**CN601246663**
Region:	**9**	County:	**Leon**
SIC Code:	**3312**	SIC Name:	**Steel Works**
Permit Reviewer:	**Gary Thomas**		

SITE INFORMATION
Physical Location: 8812 Hwy 79W
Nearest City: Jewett
Major Pollutants: CO, NOX, PM, SO2, VOC
Additional FOPs: None

PROJECT SUMMARY
Nucor Corporation's Jewett Plant Steel Mill operates an existing electric arc steel mill authorized by Federal Operating Permit (FOP) O-1289. On January 3, 2014, Nucor Corporation revised the FOP to incorporate a PSD modification. Emission sources at the site include engines, stationary vents, and steel plant equipment. In this renewal application, Nucor is incorporating an NSR amendment to update potential fluoride emissions in the LMS building and replace the existing plasma cutting table. The FOP includes general and special terms and conditions and unit-specific applicable requirements which were identified using information provided by the applicant in various forms (OP-UA2, OP-UA15, OP-UA36, OP-REQ1, OP-REQ2, OP-REQ3, OP-MON, OP-1, OP-2, OP-CRO1 and OP-ACPS).

PROCESS DESCRIPTION
Nucor Steel, Jewett Plant Steel Mill, produces steel castings by melting scrap steel, mixing with alloys, molding, and finishing the end product. The major processing operations of the steel mill are: Raw Materials, Limestone and dolomite are delivered to the plant and pneumatically unloaded into storage silos. The silos are equipped with bin vents for pressure equalization and material recovery. Bin Vent baghouse dust is recycled back to their respective silos. Scrap metal is received by railcar or truck and is stored uncovered. A crane magnet picks up the scrap metal and releases it into a "charge" bucket. Lime, dolomite, or an alloying agent is added to the charge bucket. The bucket is lifted by an overhead crane and positioned over the top of the open electric arc furnace, which dumps into the furnace through a "clamshell" opening in the bottom of the bucket.

Melting
An electric arc furnace (EAF) is a large, refractory-lined, steel pot, fitted with a water cooled roof through which three, vertical graphite electrodes are inserted. The metal charge is melted with resistive heating generated by electrical current flowing among the electrodes and through the charge. Emissions from the EAF's are particulate, carbon monoxide, organic compounds, sulfur dioxide, nitrogen oxides, and small quantities of various metals. The highest concentrations of furnace emissions occur when the furnace lids and doors are opened. Emissions escape into the

Melt Shop building and are captured by a canopy hood in the roof and controlled by a bag filter system. Metallic dust, listed as a hazardous waste, contains cadmium, chromium, and lead, is conveyed from the baghouse to a transfer vessel by a screw conveyor. It is gravity loaded in to a small truck for transfer to a storage silo.

Casting

During casting operations particulate emissions are generated in the steps prior to pouring. When the melting process is complete, the molten metal is "tapped" and poured into a ladle. Alloy agents can be added to the ladle at this time. These are usually aluminum, silicon, manganese, calcium carbonate, carbon, and chromium. Ferroalloys are used as well to produce certain grades of alloys and to adjust the oxygen content while th molten steel is in the ladle. Emissions from pouring consist of CO, VOC fumes, and particulate. The ladle containing molten metal is moved by overhead crane to the casting deck. The molten metal is poured from the ladle into the casting machine. The metal is shaped, cut, and cooled to form billets. The unused ladles are kept hot while not in use at a preheat station by natural gas combustion. Emissions from the casting operations are controlled by the casting deck baghouse. Impurities in the molten steel, called "slag", are removed from the ladle by pouring it into a slag pit. The slag is removed from the pit and transferred to a truck by using a front loader. It is then hauled off -site for further processing. On-site slag processing is conducted by another firm, IMS, Incorporated.

Finishing

The cooled billets are reheated and rolled into final products such as angles, flat bars, channels, and rounds in the rolling mill. Emissions from the roll mill consist of particulate resulting from the cooling and rolling of the billets. Roll mill emissions are controlled by process water spray.

TECHNICAL REVIEW

Permit Content Summary

1. Was Periodic Monitoring (PM) required and included in the permit?..... Yes
2. Was Compliance Assurance Monitoring (CAM) required and included in the permit?.....Yes
3. Was case-by-case PM or CAM included in the permit?..... No
4. Was a permit shield requested?..... Yes
5. If a permit shield was requested, was any permit shield request denied?.....No
6. Identify if the following are applicable for this project:
    (a) Manually-built applicable requirements..... No
    (b) Customized Special Terms and Conditions..... No
    (c) Manual changes to the IMS-generated applicable requirements..... No
    (d) Alternate means of compliance for any emission unit/source at the site.....No
7. Is the site subject to the requirements of 40 CFR Part 72 (Acid Rain Permit)?.....No
8. Did the applicant's review/comments on the working draft permit result in changes to the permit content?..... ...Yes
9. Will the draft permit be sent to public notice with unresolved issues (i.e., disagreements with applicant)?..... No

Permit reviewer notes:

CAM is required for the Emission Unit BAGHSMS and PM is required for Emission Units REHEATXI and REHEATXII in this permit. Citations were added to the ARS table for MACT YYYYY and NSPS AAa. Several process heaters were granted permit shields for MACT JJJJJJ. Two PBRs were added to the NSR table and one PBR was deleted as requested by the applicant.

Statement of Basis

A Statement of Basis sets forth the legal and factual basis for the applicable requirements that are included in the FOP.
1. The Statement of Basis was prepared on 03/04/2015.
2. The Statement of Basis GroupWise Document # (OPDP Database) is 73933.

Compliance History Review
1. In accordance with 30 TAC Chapter 60, the compliance history was reviewed on 03/04/2015.
2. The compliance history review evaluated the period from 08/28/2014 to 08/29/2009.
   Site rating: 0 Company rating: 0
   (High < 0.10; Satisfactory > 0.10 and < 55; Unsatisfactory > 55)
3. Has the permit changed on the basis of the compliance history or site/company rating?..... No

Site/Permit Area Compliance Status Review
1. Were there any out-of-compliance units listed on Form OP-ACPS?..... No
2. Is a compliance plan and schedule included in the permit?..... No

Delinquent Fee Check
1. The delinquent fee check was performed on 03/04/2015.
2. Were there any delinquent fees owed? ..... No

Public Notice Information
1. Were comments received from the applicant after the draft permit was mailed and before Public Notice was published?..... No
2. Was a revised draft permit or public notice authorization package (PN-Errata) sent for any reason?..... No
3. Publication date: 05/20/2015 Newspaper name: The Jewett Messenger
4. Was bilingual public notice published?..... No
   Publication date: Newspaper name:
5. Were comments received during Public Notice period?..... No
   (a) Was a public hearing requested?..... No
   (b) Was a public hearing held?..... No
   (c) Was the public hearing request withdrawn?..... No
   (d) Was permit content changed as a result of any public comments?..... No
6. Was re-publication necessary?..... No

EPA Review
1. Did EPA comment on the draft permit?..... No
2. Was a separate NOPP - Notice of Proposed Permit sent to the EPA?..... No
   If yes, did the EPA comment on the proposed permit?..... No
3. Were any changes made to the permit after the EPA Review Period?..... No
   If yes, were these changes made within the 60 day Public Petition Period?..... No

IMPORTANT MILESTONES

Milestone (Standard)	Start Date	End Date

Date Application Received by TCEQ	08/26/2014	
Date Project Received by Engineer	01/06/2015	
Technical Review Period	01/13/2015	02/05/2015
Working Draft Permit Reviewed by Applicant	02/06/2015	02/28/2015
Date PNAP/Draft Permit Mailed	04/27/2015	
Public Notice Comment Period	05/20/2015	06/19/2015
EPA Review Period	05/26/2015	07/11/2015
Date Sign Posting Certification Received	07/07/2015	

Milestone (Optional)	Start Date	End Date
Deficiency Cycle 1		
Deficiency Cycle 2		
Request for Comments on Compliance Plan		
Date Comment on Draft Permit Received from Public		
Date comment on Draft Permit Received from EPA		
Date Public Hearing Requested		
Date Public Hearing Held		

EFFECTIVE PERMIT ISSUANCE DATE:

Gary Thomas Date
Permit Reviewer
Operating Permits Section
Air Permits Division

Javier Maldonado, P.E. Date
Team Leader
Operating Permits Section
Air Permit Division

CONTACT INFORMATION

Responsible Official:
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