



Environmental
Protection Agency

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



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BUTLER

AK STEEL CORP

OSIKA, MARY

2010/10/04



**Environmental
Protection Agency**

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

October 6, 2010

Mr. Brian Brishop, Plant Manager
AK Steel Corporation
1801 Crawford Street
Middletown, Ohio 45043

**Re: AK Steel Middletown Works, Butler County
Compliance Evaluation Inspection (CEI)
Ohio EPA Permit No. 11D00001*LD
NPDES Permit No. OH0009997**

Dear Mr. Brishop:

On September 24, 2010, I conducted an NPDES Permit Compliance Evaluation Inspection at the AK Steel Middletown Works with James Kemp and Chris Potts. A copy of my inspection report is enclosed.

All areas evaluated during the inspection were rated as satisfactory. No response is required to the inspection findings. You may call me at (937) 285-6101 if you have any questions concerning this compliance evaluation inspection.

Sincerely,

Mary Osika
Environmental Specialist
Division of Surface Water

Enclosure

ec: James Kemp, AK Steel Corporation w/ encl.





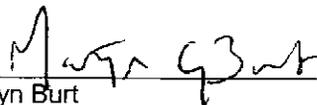
State of Ohio Environmental Protection Agency
Southwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
11D00001*LD	OH0009997	9/24/2010	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
AK Steel Corporation – Middletown Works 1801 Crawford Street Middletown, Ohio	7:40 am	August 1, 2009
	Exit Time	Permit Expiration Date
	1:00 pm	October 31, 2010
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Jim Kemp, Senior Environmental Engineer Chris Potts, Environmental Engineer	513-425-6177 513-425-3239	
Name, Address and Title of Responsible Official	Phone Number	
Brian Brishop, Plant Manager AK Steel Corporation- Middletown Works 1801 Crawford Street Middletown, Ohio 45043	513-425-3391	

Section C: Areas Evaluated During Inspection					
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)					
S	Permit	S	Flow Measurement	N	Pretreatment
S	Records/Reports	N	Laboratory	S	Compliance Schedule
S	Operations & Maintenance	S	Effluent/Receiving Waters	S	Self-Monitoring Program
S	Facility Site Review	S	Sludge Storage/Disposal	S	Other
N	Collection System				

Section D: Summary of Findings (Attach additional sheets if necessary)	
See attached summary of Findings/Comments	
Inspector	Reviewer
 Mary Osika Environmental Specialist Division of Surface Water Southwest District Office	 Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office
10/6/2010 Date	10/7/10 Date



Sections E thru K: Complete on all inspections as appropriate
Y – Yes, N – No, N/A – Not Applicable, N/E – Not Evaluated

Section E: Permit Verification

Inspection observations verify the permit

- (a) Correct name and mailing address of permittee Y
- (b) Correct name and location of receiving waters..... Y
- (c) Do Categorical Standards apply?...If yes, list applicable standards.. Y

40 CFR 420 & 433
- (d) Product(s) and production rates conform with permit application (Industries)..... Y
- (e) Flows and loadings conform with NPDES permit..... Y
- (f) Treatment processes are as described in permit application... Y
- (g) All discharges are permitted..... Y
- (h) Number and location of discharge points are as described in permit..... Y
- (i) Storm water discharges properly permitted..... Y

Comments/Status:

Renewal application received May 4, 2010. AK technical support document received August 25, 2010.

Section F: Compliance

- (a) Any significant violations since the last inspection..... N
- (b) Appropriate Non-compliance notification of violations..... N/A
- (c) Permittee is taking actions to resolve violations..... N/A
- (d) Permittee has a compliance schedule..... Y
- (e) Compliance schedule contained in...NPDES Permit Compliance Schedule
- (f) Permittee is in compliance with schedule..... Y
- (g) Has biomonitoring shown toxicity in discharge since last inspection Y

Comments/Status:

(a) No effluent limit violations during the review period of August 2009 through August 2010. An oil sheen was detected at Outfall 011 on May 27, 2010. This was reported to the spill hotline and given incident #1005-09-1467. The cause was unknown after investigation. Booms were used at the outfall to absorb any oil.

(g) Chronic toxicity to Daphnia Magna reported at Outfall 004 during March & June 2010.



Section G: Operation & Maintenance

Treatment Works:

Treatment facility properly operated and maintained

(a) Standby power available.....generator or dual feed N

i. What does the back-up power source operate.....

ii. How often is the generator tested under load.....

(b) Which components have an alarm system available for power or equipment failures.....

all treatment components

(c) All treatment units in service other than backup units..... Y

(d) What method is used for scheduling routine & preventative maintenance (calendar, software, etc.).....

software PM program

(e) Any major equipment breakdown since last inspection..... N

(f) Operation and maintenance manual provided and maintained..... Y

(g) Any plant bypasses since last inspection..... N

(h) Any plant upsets since last inspection..... N

Comments/Status:

(a) if power outage, no flow into treatment systems



Section H: Sludge Management

- Method of Sludge Disposal... Land Application
 Haul to Another NPDES Permittee
 Haul to a Mixed Solid Waste Landfill
- (a) Has amount of sludge generated changed significantly since the last inspection..... Y
- (b) How much sludge storage is provided at the plant.....
sludge is removed immediately to landfill
- (c) Records kept in accordance with State and Federal law (5 years according to OAC 3745-40-06)..... Y
- (d) Any complaints received in last year regarding sludge..... N
- (e) 5/8" screen at headworks for facilities that land apply sludge..... N/A
- (f) Are sludge application sites inspected to verify compliance with NPDES permit..... N/A
- (g) Is a contractor used for sludge disposal..... Y
If so, what is the name of the contractor.....
RMB hauls to Rumpke

Comments/Status:

Sludges at the mill are iron & steel treatment sludges. The sludges are dewatered by vacuum filters into roll off containers for removal.

Section I: Self-Monitoring Program

Flow Measurement:

- (a) Primary/Secondary flow measuring devices operated and maintained..... Y
Type of devices (e.g. weir with ultrasonic level sensor):
Ultrasonic level on v notch weirs or flume, velocity meters, transducers
- (b) Calibration frequency adequate Y
(Date of last calibration: 2010)
- (c) 24-hour recording instruments operated and maintained..... Y
- (d) Flow measurement equipment adequate to handle full range of flows..... Y
- (e) Actual flow discharged is measured..... Y
- (f) Flow measuring equipment inspection frequency
 Daily Weekly monthly other

Comments/Status:

(b) calibration dates of flow meters at outfalls: 803 -9/10/2010, 004 - 9/10/2010, 015 - 9/10/2010, 003 - 9/13/2010, 002 - 9/10/2010, 011 - 9/13/2010, 631 - 8/23/2010, 613 - 2/25/2010, 614 - 5/8/2010, 641 - 5/18/2010 and 642 - 5/7/2010.



Section I: Self-Monitoring Program (con't)

Sampling:

- (a) Sampling location(s) are as specified by permit..... Y
- (b) Parameters and sampling frequency agree with permit..... Y
- (c) Permittee uses required sampling method..... N/E
(see GLC page)
- (d) Monitoring records (i.e., flow, pH, DO) maintained for a minimum of three years including all original strip chart recordings (i.e, continuous monitoring instrumentation, calibration and maintenance records)..... Y

Comments/Status:

Section I: Self-Monitoring Program (con't)

Laboratory:

General

- (a) Does the Quality Assurance Manual contain written Standard Operating Procedures (SOP's) for all analysis performed onsite..... N/E
- (b) Do SOP's include the following if applicable..... N/E
 - Title
 - Scope and Application
 - Summary
 - Sample Handling and Preservation
 - Interferences
 - Apparatus and Materials
 - Reagents
 - Procedure
 - Calculations
 - Quality Control
 - Maintenance
 - Corrective Action
 - Reference (Parent Method)

Note: Standard Methods 1020A establishes that "Quality assurance (QA) is the definitive program for laboratory operation that specifies the measure required to produce defensible data of know precision and accuracy. Standard operating procedures are to be used in the laboratory in sufficient detail that a competent analyst unfamiliar with the method can conduct a reliable review and/or obtain acceptable results." SOPs should be developed for each analytical procedure.

- (c) EPA approved analytical testing procedures used (40 CFR 136.3).. N/E



- (d) If alternate analytical procedures are used, proper approval has been obtained..... N/E
- (e) Analyses being performed more frequently than required by permit. N/E
- (f) If (e) is yes, are results in permittee's self-monitoring report..... N/E
- (g) Satisfactory calibration and maintenance of instruments/equipment. N/E (see score from GLC page)
- (h) Commercial laboratory used..... Y
Parameters analyzed by commercial lab: all NPDES parameters

Lab name: Belmont labs, EA Engineering

Discharge Monitoring Report Quality Assurance (DMRQA)

- (a) Participation in latest USEPA quality assurance performance sampling..... Y
Date: Study 29, September 2009
- (b) Were any parameters "Unsatisfactory"..... N
- (c) Reasons for "Unsatisfactory" parameters.....

Comments/Status:

N/E - most of General Lab Criteria does not apply as facility uses off site contract lab. See attached sheets discussing Refrigerator used for composite samples and Sample Collection/Handling.

Section J: Effluent/Receiving Water Observations

Outfall # 613 and 614 internal and 011

Outfall Description: Blast Furnace Treatment and North Terminal Treatment Plant and outfall headwall discharge point.

Receiving Stream: Great Miami River

Receiving Stream Description: satisfactory

Outfall # 005 internal and 015

Outfall Description: Hot Strip Mill Clarification and Outfall pipe.

Receiving Stream: Dicks Creek

Receiving Stream Description: satisfactory

Outfall # 641 and 642 internal and 004

Outfall Description: South Terminal Treatment Plant, EGL #2 Treatment Plant and outfall channel discharge.



Permit #: 11D00001*LD
NPDES #: OH0009997

Receiving Stream: North Branch Dicks Creek

Receiving Stream Description: satisfactory

Outfall # 631 internal and 003

Outfall Description: Basic Oxygen Furnace Treatment Plant and outfall channel.

Receiving Stream: Dicks Creek

Receiving Stream Description: satisfactory

Outfall # 002

Outfall Description: Coke Plant discharge channel

Receiving Stream: Dicks Creek

Receiving Stream Description: bypass pumping occurring around Dicks Creek Remediation Project, outfall 002 discharge point is temporarily at area near Railroad crossing at Dicks Creek, did not view during inspection.

Outfall # 008

Outfall Description: Storm water runoff from coke plant road

Receiving Stream: Dicks Creek

Receiving Stream Description: no discharge

Outfall # 009

Outfall Description: Landfill runoff settling pond

Receiving Stream: tributary to Dicks Creek

Receiving Stream Description: no discharge

Comments/Status:

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Section K: Multimedia Observations

- (a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories..... N/E
- (b) Do you notice staining or discoloration of soils, pavement or floors.. N/E
- (c) Do you notice distressed (unhealthy, discolored, dead) vegetation.. N/E
- (d) Do you see unidentified dark smoke or dust clouds coming from sources other than smokestacks..... N/E
- (e) Do you notice any unusual odors or strong chemical smells..... N/E
- (f) Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities..... N/E

If any of the above are observed, ask the following questions:

- (1) What is the cause of the condition?
- (2) Is the observed condition or source a waste product?
- (3) Where is the suspected contaminant normally disposed?
- (4) Is this disposal permitted?
- (5) How long has the condition existed and when did it begin?

Comments/Status:

N/E - Facility is large fully integrated steel mill. Inspected time limited.



Summary of Findings/Comments

During the NPDES Compliance Inspection, Jim Kemp stated that he would be the contact person for the Dicks Creek Remediation Project and that Chris Potts would be the new NPDES contact person for AK Steel, Middletown Works.

During the inspection, all treatment plants, sampling stations and outfall locations were inspected with the exception of outfall 002 discharge point at Dicks Creek.

Ohio EPA has instituted a General Lab Criteria Checklist to ensure quality analytical data from all onsite laboratory facilities and sampling stations. Two sections from this checklist were checked during the NPDES inspection at AK Steel. The attached checklists details comments for the refrigerators used at all sampling stations and some Sample Collection and Handling procedures. No ratings are given for these lab criteria areas until the next inspection.

A review of the DMRs in the review period of August 2009 through August 2010 showed no effluent limit violations of the NPDES permit.

No response is required to the Summary of Findings/Comments.



General Lab Criteria

Criteria	Standard Methods Requirement		Rating
Incubator (CBOD/ E-Coli)	Acceptable?		
<ul style="list-style-type: none"> • Temperature Recordkeeping 	<ul style="list-style-type: none"> • Temperature checked / recorded twice daily for each shelf in use¹(E-Coli) 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Temperature checked / recorded daily² (CBOD) 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Acceptable temperature range (CBOD) is 20° C ±1.0^{o12} 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Acceptable temperature range (E-Coli) is 35° C ±0.5^{o22} 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Logbook maintained² 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> • Temperature Calibration / Documentation 	<ul style="list-style-type: none"> • Thermometer calibrated annually with NIST traceable thermometer^{1,2} 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Temperature correction information posted on incubator¹ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> • E-Coli can use multiple tubes (five 20 ml or ten 10 ml), or mfg's multi-well tray 	<ul style="list-style-type: none"> • E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb)²³ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Instrument manual available 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Temperature Log (thermometer reads to 0.5 Celsius).¹ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: :

Criteria	Standard Methods Requirement		Rating
Refrigerator	Acceptable?		
<ul style="list-style-type: none"> • Temperature Recordkeeping 	<ul style="list-style-type: none"> • Temperature Log (thermometer reads to 0.5 Celsius).⁵ 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	<ul style="list-style-type: none"> • Temperature Calibration / Documentation 	<ul style="list-style-type: none"> • Thermometer calibrated annually with NIST traceable thermometer^{1,2} 	
<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Thermometer held in water bath.¹ 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Refrigerator temperature ≤6° Celsius.¹³ 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Do not store volatile solvents, food, or beverages.¹⁴ 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: Sampling Stations at AK Steel are equipped with ISCO samplers with small refrigerators to hold the sample during compositing. The outfall sampling stations had thermometers that read to 0.5 degree increments, but the internal sampling stations did not. These internal sample stations need replacement thermometers. A temperature log recording the daily temperature of the refrigerator temperatures needs to be initiated at each sampling station.



General Lab Criteria

Criteria	Standard Methods Requirement		Rating
Sample Collection/Handling	Acceptable?		
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed). ¹⁹	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Chain of Custody	• Chain of custody (description, date, time, signature). ¹⁹	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Composite samples refrigerated during sample collection ¹⁴	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Equipment blanks utilized ¹⁴	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• SOP for cleaning of sampling equipment	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Logbook being maintained ²	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: During the inspection, chain of custody for Belmont Labs reviewed and found acceptable. AK Steel should maintain a log book for each sampling station to document any maintenance of the sampling equipment (isco sampler, tubes, refrigerator) and implement a written SOP for cleaning of sampling equipment. AK should verify that sample labeling procedures adhere to the Standard Methods Requirement as well as verify that contractors use equipment blanks for samples.

Criteria	Standard Methods Requirement		Rating
Desiccator	Acceptable?		
• General criteria	• Properly working seals.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Desiccant fresh (blue color)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Documentation	• Log book being maintained ²	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments:

Criteria	Standard Methods Requirement		Rating
Bench sheets	Acceptable?		
• General criteria	• Date(s) ²	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Analyst initials ²	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Blue or black ink pen ²	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Calibration information ²	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Equations, calculations, units for all measurements, notations, and results present ²	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Corrections, single line through, initialed and dated ²	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments:

