

REPORT OF RCRA COMPLIANCE EVALUATION INSPECTION

At

MidAmerican Energy Company Neal Energy Center – Neal North

1151 260th St.

Sergeant Bluff, Iowa 51054

(712) 277 - 5237

EPA ID Number: IAD000678045

On

July 27, 2022

By

Eastern Research Group, Inc.

For

U.S ENVIRONMENTAL PROTECTION AGENCY

Region 7

Enforcement and Compliance Assurance Division

1.0 INTRODUCTION

At the request of the Enforcement and Compliance Assurance Division/Chemical Branch/RCRA Section (ECAD/CB/RCRA) of the U.S. Environmental Protection Agency (EPA) Region 7, Eastern Research Group, Inc. (ERG) conducted a Resource Conservation and Recovery Act (RCRA) compliance evaluation inspection (CEI) at MidAmerican Energy Company Neal Energy Center – Neal North (MECNN) in Sergeant Bluff, Iowa on July 27, 2022. The CEI was conducted under the authority of Section 3007(a) of RCRA, as amended. Throughout the CEI, data and information were collected to determine compliance with the applicable regulatory and statutory requirements. The inspection report and attachments present the results of the CEI.

2.0 PARTICIPANTS

MidAmerican Energy Company Neal Energy Center – Neal North:

Justin Terrell, Senior Environmental Analyst

Adam Vega, Associate Environmental Analyst

EPA Representative, ERG:

Joseph Watson, Senior Chemical Engineer

3.0 INSPECTION PRECEDURES

After arriving unannounced at MECNN at approximately 09:05, I performed a drive-by visual inspection of the facility and took a photograph before beginning the inspection and did not note any areas of concern. I then entered the main entrance and I introduced myself to the security officer. I explained my reason for being on site is to conduct a RCRA CEI and asked to meet with the facility personnel who manages hazardous waste on site. The security officer stated he would contact Mr. Terrell and Mr. Vega who were at the Neal South facility about 15 minutes away. I signed in on site and waited about 15 minutes for Mr. Terrell and Mr. Vega to arrive. Mr. Terrell and Mr. Vega arrived and guided me into the environmental building conference room for the opening conference. I initiated the opening conference with Mr. Terrell and Mr. Vega present as MECNN's representatives. I presented Mr. Terrell and Mr. Vega with my inspector credentials and business card, as well as the business card of the EPA Task Order Contracting Officer Representative, Mr. Trevor Urban. I then presented a copy of RCRA Section 3007(a), which contains EPA's inspection authority. I explained my need to collect accurate information and presented them with a copy of Title 18 U.S. Code, Sections 1001 and 1002. I then presented Mr. Terrell and Mr. Vega with a copy of the *Notice Regarding Proprietary/Confidential Business Information Submitted to or Collected by EPA in Connection with Inspections* and reviewed MECNN's confidentiality rights. I informed Mr. Terrell and Mr. Vega that I would provide a *Confidentiality Notice* at the end of this inspection.

The inspection consisted of a discussion of facility operations, waste generation and waste management, a review of waste management records, and a visual inspection of the waste generation and management areas. Mr. Terrell provided a facility layout (see Attachment 1) and explained facility operations and locations of hazardous waste generation and management.

During the visual inspection of the facility, Mr. Terrell and Mr. Vega guided me throughout the facility in order to conduct thorough evaluations of the facility's areas generating and accumulating hazardous waste, and all manufacturing and process areas. The facility also handles universal waste in a designated on-site area, which was also visually inspected. I conducted an in-depth visual inspection of the hazardous waste accumulation containers, used oil storage areas, the universal waste area on site, and process areas.

Eight photographs were collected as inspection documentation and are shown in Attachments 2 and 3. Information collected during the inspection is documented on the *EPA Inspection Checklist* (see Attachment 4). I followed the inspection procedures discussed in the RCRA CEI Standard Operating Procedure (No. 2321.01D), unless noted differently. At the conclusion of the inspection, I provided Mr. Terrell with a *Confidentiality Notice* and *Receipt for Documents and Samples* which he signed as acknowledgement of receipt (see Attachments 5 and 6 respectively). No confidentiality claims were made by MECNN.

The following inspection documents and compliance assistance handouts were left with MECNN:

RCRA Section 3007(a)
Title 18 U.S. Code, Sections 1001 and 1002

*Notice Regarding Proprietary/Confidential Business Information Submitted to or Collected by
EPA in Connection with Inspections
Confidentiality Notice (Facility copy)
Receipt of Documents and Samples (Facility copy)
Security Awareness
Commercial Motor Vehicle Transportation
Security Planning
EPA E-Manifest Fact Sheet U.S.
EPA Small Business Resources
U.S. EPA Publication, Managing Your Hazardous Waste
U.S. EPA Publication, Managing Used Oil-Advice for Small Businesses
PowerPoint Presentation, 2013 Solvent Wipes Final Rule
Pollution Engineering Article, 10 Common Questions for Waste Generators
Iowa Department of Natural Resources (IDNR) Waste Exchange Folder and P2 Brochures
IDNR Management of Fluorescent Lamps for Businesses Information Sheets
IDNR Aerosol Can Disposal for Businesses Information Sheet
University of Northern Iowa Waste Reduction Center Information Card
Solvent-Contaminated Wipes Final Rule Summary Chart*

4.0 FINDINGS AND OBSERVATIONS

4.1 Facility Information and Operations

MECNN began operating the facility in 1964 and currently employs approximately 70 people. The facility operates two, twelve-hour shifts from 06:00 to 18:00 and 18:00 to 06:00, seven days a week. The facility has a footprint of approximately four acres. The facility is approximately 2,339,685 square feet and has one maintenance shop where maintenance operations occur. MECNN's operations consist of coal fired energy generation with associated maintenance and management activities. The major raw materials used are coal, natural gas, water, oil, and antifreeze. The major operation that generates waste streams include coal combustion, bead blasting, and equipment maintenance. The following waste streams are produced: fly ash, aerosol cans, spent parts washer solution, scrap metal, used oil, used oil filters, oily debris, universal waste batteries, universal waste lamps, and general trash.

4.2 RCRA Status

According to the *Hazardous Waste Site Info Verification Report for Inspector* (see Attachment 7), MECNN notified as a federal very small quantity generator (VSQG) of D001, D002, D003, D008, D009, D039, and D40 hazardous wastes. I asked Mr. Terrell to review the *Hazardous Waste Site Info Verification Report for Inspector*, which I provided prior to records review and visual inspection of the waste generation areas. Mr. Terrell stated that I should make him the site contact. After reviewing the records and walking through the facility, it appears that the facility is operating as a VSQG of D001, D002, D003, D008, D009, D039, and D040 hazardous waste, a generator of used oil, and a small quantity handler (SQH) of universal waste. MECNN generated approximately 30 pounds of hazardous waste per month over the past three years.

MECNN was previously inspected by an EPA contractor from EPA on March 14, 2012. The inspection led to a notice of preliminary findings (NOPFs). The findings included: failure to label a universal waste container with the words universal waste lamps; failure to track or date universal waste lamps to demonstrate the length of time that a universal waste has been accumulated; failure to keep a universal waste lamps storage container closed; and failure to adequately train employees in the handling and management of universal waste. I did not observe any findings during my inspection.

4.3 Facility Waste Streams and Management

A Waste Stream and Waste Handling Table for MECNN is presented below. The table describes waste streams generated, generation process/rates, hazardous waste determinations, and on-site/off-site management. A summary of waste profiles for MECNN is included in Attachment 8.

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#	WASTE STREAM	GENERATION PROCESS	HAZARDOUS WASTE DETERMINATION	ESTIMATED GENERATION RATE	ON-SITE MANAGEMENT	OFF-SITE MANAGEMENT
1	Parts Washer Solution (SDS included in Attachment 9)	Used for wiping off excess solution from parts/tools being cleaned in parts washer	Nonhazardous (based on process knowledge and knowledge of the product)	135 gallons changed quarterly	Inside parts washer	Safety-Kleen Systems in Omaha, NE for Recycling (Waste Manifest for shipment included in Attachment 10)
2	Solvent Rags	Wiping down parts in maintenance	D039 and D040 (based on process knowledge and knowledge of the product in aerosol cans)	Approximately one 55-gallon container every two years.	55-gallon container	Clean Harbors Environmental Services, Inc. (MAD039322250) to Clean Harbors (NED981723513) in Kimball, NE for disposal
	This waste stream has not been generated since 2020. See section Solvent Rags in this report for a detailed discussion of this waste stream.					
3	Fly Ash	Coal combustion residue	Excluded (Based on process knowledge – coal combustion residue)	30,231 tons in 2021	Stored in silos on site.	Eco Material Technologies of Sioux City Iowa brokers the material for beneficial reuse
4	Bottom Ash	Coal combustion residue	Excluded (based on process knowledge - coal combustion residue)	25,000 tons in 2021	Piles created by drag chains, loaded into approximately 20-yard side roll off trucks	Coal combustion residue monofil landfill managed by MidAmerican Energy Company

#	WASTE STREAM	GENERATION PROCESS	HAZARDOUS WASTE DETERMINATION	ESTIMATED GENERATION RATE	ON-SITE MANAGEMENT	OFF-SITE MANAGEMENT
5	Oily Water/Sludge	Oily water/sludge from plant sump drains	Nonhazardous (based on process knowledge and knowledge of the product)	Approximately 2,000 gallons per year	In blind sumps or oil/water separators that discharge to a wastewater treatment plant	Seneca Companies in Des Moines, IA (IAD000678060) to Mills County Sanitary Landfill (IAD000678185) for disposal (Special Waste Disposal Authorization included in Attachment 11)
6	Oily Debris	Maintenance and repair of equipment, spill cleanup, used PPE	Nonhazardous (based on process knowledge and knowledge of the product)	Two yards per quarter	1-yard container	Clean Harbors Environmental Services, Inc. (MAD039322250) to Iowa Gold Distributing Environmental Services (IA0000471920) in Central City, IA for recycling and waste to the Mills County Sanitary Landfill (IAD000678185) for disposal (Analytical results included in Attachment 12 and Waste Profile in Attachment 13))
7	Used Oil	Maintenance and repair of equipment	Excluded (managed as used oil per 40 CFR 279)	Approximately 200 gallons per month	155-gallon tank and 55-gallon containers	Jebro, Inc. (IAD000678045) in Sioux City, IA for recycling (Bill of Lading included in Attachment 14)

#	WASTE STREAM	GENERATION PROCESS	HAZARDOUS WASTE DETERMINATION	ESTIMATED GENERATION RATE	ON-SITE MANAGEMENT	OFF-SITE MANAGEMENT
8	Used Coolant	Maintenance and repair of equipment	Nonhazardous (based on process knowledge and knowledge of the product)	Approximately 110 gallons per year	55-gallon containers	Jebro, Inc. (IAD000678045) in Sioux City, IA for recycling (Bill of Lading included in Attachment 14)
9	Used Oil Filters	Maintenance and repair of equipment	Excluded (based on management and process knowledge) recycled as scrap metal	Approximately two 55-gallon containers per year	Hot drained and then punctured and then added to scrap metal containers	All Metals Market Inc in Fremont, NE for recycling
10	Universal Waste Lamps	Facility maintenance	Excluded (managed as universal waste per 40 CFR 273)	Five bulbs per year	4-ft fiber containers	A-TEC Recycling, Inc. (IA0000109827) in Des Moines, IA for recycling (Certificates of Recycling included in Attachment 15)
11	Universal Waste Batteries	Replacement batteries for tools and equipment	Excluded (managed as universal waste per 40 CFR 273)	Approximately 100 pounds per year	5-gallon container	Clean Harbors Environmental Services, Inc. (MAD039322250) to Clean Harbors (NED981723513) in Kimball, NE for recycling (Manifest included in Attachment 16)
12	Bead Blast Media	Remove imperfections off of metal surfaces	Nonhazardous (based on process knowledge and knowledge of the product)	One 55-gallon container every two years	55-gallon container	Clean Harbors Environmental Services, Inc. (MAD039322250) to Clean Harbors (NED981723513) in Kimball, NE for disposal (Analytical results included in Attachment 17)

#	WASTE STREAM	GENERATION PROCESS	HAZARDOUS WASTE DETERMINATION	ESTIMATED GENERATION RATE	ON-SITE MANAGEMENT	OFF-SITE MANAGEMENT
13	Lead Paint Contaminated Debris	Facility maintenance/renovation	D008 (based on process knowledge)	Varies based on activity. Last shipment was in 2018	55-gallon container	Clean Harbors Environmental Services, Inc. (MAD039322250) to Metro Transport Services LLC (MNS000192872) to Clean Harbors Deer Trail (COD991300484) in Deer Trail, CO for treatment and disposal
14	Mercury and Mercury Containing Equipment	Replacing or decommissioning old equipment	D009 (based on management and process knowledge)	Varies based on activity. There was one 69-pound shipment in 2022.	Containerized based on volume of material collected	Clean Harbors Environmental Services, Inc. (MAD039322250) to Metro Transport Services LLC (MNS000192872) to Clean Harbors Deer Trail (COD991300484) in Deer Trail, CO for treatment and disposal
15	Scrap Metal	Replacing parts on facility equipment and scrap from decommissioning	Excluded (based on management and process knowledge) recycled as scrap metal	20-yard container picked up once per month	20-yard containers	All Metals Market Inc in Fremont, NE for recycling
16	Aerosol Cans	Aerosol cans of lubricants and paint used during maintenance and repair operations of parts and equipment	D001 and D003 (based on process knowledge and knowledge of the product)	Approximately five pounds per month	55-gallon container	Clean Harbors Environmental Services, Inc. (MAD039322250) to Clean Harbors (NED981723513) in Kimball, NE for recycling

#	WASTE STREAM	GENERATION PROCESS	HAZARDOUS WASTE DETERMINATION	ESTIMATED GENERATION RATE	ON-SITE MANAGEMENT	OFF-SITE MANAGEMENT
17	Acid Contaminated Debris	Material from a cleanup of an acid spill	D002 (based on process knowledge and knowledge of the product)	Varies based on activity.	55-gallon container	Clean Harbors Environmental Services, Inc. (MAD039322250) to Metro Transport Services LLC (MNS000192872) to Clean Harbors Deer Trail (COD991300484) in Deer Trail, CO for treatment and disposal
18	General Trash	Facility operations	Nonhazardous (based on process knowledge and knowledge of the product)	Not tracked – picked up as needed	16-yard and 20-yard containers	Lindblom Services Inc. in Sioux City, IA the Mills County Sanitary Landfill (IAD000678185) for disposal

4.4 Visual Inspection

Energy Production and Maintenance:

MECNN generates electricity by burning coal in boilers that generate steam to turn the associated turbines. Mr. Terrell stated that the two largest waste streams generated on site are fly ash and bottom ash. Eco Material Technologies of Sioux City Iowa has an office on site to manage fly ash. MECNN collects the bottom ash with drag chains into piles. Front loaders collect the bottom ash and load it into side roll off trailers. The trailers transport the bottom ash to a coal combustion residue monofil landfill where the material is deposited. The facility generated 25,000 tons of bottom ash in 2021. MECNN collects the fly ash and stores it in silos on site. Fly ash from the silos is emptied into a pin mixer where water is added. The moist material is dumped into a vacuum sealed 20-yard trailer for shipment. Eco Material Technologies brokers the material for beneficial reuse. The facility generated 30,231 tons of fly ash in 2021. Mr. Terrell stated the facility also generates used oil, used coolant, spent parts washer solution, oily debris, and scrap metal.

I asked Mr. Terrell what type of parts washer solution the facility uses. Mr. Terrell stated the facility uses one parts washer that holds approximately 135 gallons of Safety-Kleen Premium Solvent parts washer solution (see Attachment 3, Photo 5). The parts washer solution SDS is provided in Attachment 9.

On the fourth floor of the Unit 3 boiler, I observed a 55-gallon container of lead paint contaminated debris (see Attachment 3, Photo 7). Mr. Terrell stated that they collect paint debris during renovation or decommissioning activities. The container was approximately 90 percent full. The container was closed, in good condition, labeled as “Hazardous Waste,” and labeled with an indication of the nature of the hazard.

I asked Mr. Terrell about waste streams with a D002 hazardous waste characteristic since they were observed in the last inspection report. Mr. Terrell stated that this waste stream is generated primarily from the cleanup of acid contaminated debris from a phosphoric acid or sulfuric acid leak or spill. There currently was no D002 waste being accumulated on site. I asked Mr. Terrell when the last time MECNN generated this waste stream. Mr. Terrell was unsure the last time this waste was generated but believed it was at least three years ago.

In the maintenance area, I observed the bead blast unit (see Attachment 3, Photo 8). Mr. Terrell stated the bead blast unit is used to remove imperfections from steel parts being repaired. Mr. Terrell stated that they sent out a sample of the waste bead blast material in 2021 for analysis and the material was nonhazardous. Mr. Terrell stated that every batch of waste bead blast material is analyzed before being sent out for disposal and is managed according to the analytical results. Previous waste profiles showing the waste bead blast material as hazardous waste have expired. The analytical results are included in Attachment 17.

Used Oil and Used Coolant:

Mr. Terrell stated the facility generates approximately 200 gallons per month of used oil from

equipment and vehicle maintenance. Used oil is stored in a 155-gallon tank in the maintenance area (see Attachment 3, Photo 6) and in 55-gallon containers that may be accumulated in the maintenance area or in another area where the used oil may be generated. Mr. Terrell stated 5-gallon containers are used as transfer containers during maintenance activities. Mr. Terrell stated containers of used oil are emptied into the used oil tank at the conclusion of maintenance activities. The 5-gallon containers I observed in this area were empty (see Attachment 3, Photo 6). The tank and containers were closed, in good condition, and labeled "Used Oil". The used oil is shipped off site using a bill of lading as shown in Attachment 14. Mr. Terrell stated that the facility generates approximately two 55-gallon containers per year of used coolant from coolant system repairs. Any coolant collected during system repairs will be transferred to 55-gallon containers. Used coolant is stored in 55-gallon containers. Jebro Inc. of Sioux City, IA picks up the used oil and used coolant for recycling. Mr. Terrell stated that oily water is typically generated from the cleanout of sumps on site. The sumps are emptied by vacuum truck and oily water is not accumulated on site. Mr. Terrell stated the facility sent a sample of used oil and oily water off site for analytical testing in May 2016. The analytical report shows the used oil and oily water were nonhazardous and is provided in Attachment 12. I reviewed the management of used oil and used coolant and no issues or findings were noted.

Solvent Rags:

Mr. Terrell stated the facility used to generate D039 and D040 solvent rags based on the materials in aerosol cans that maintenance personnel used to clean parts. He stated that he believed they stopped using the material in aerosol cans in 2020 and that MECNN no longer generates that waste stream. Mr. Terrell wanted to keep those waste codes on the *Hazardous Waste Site Info Verification Report for Inspector* in case the facility needs to use the material in the aerosol cans in the future. I reviewed the management of solvent rags and no issues or findings were noted.

Universal Waste:

MECNN manages a small amount of universal waste on site in the maintenance area. I observed one 5-gallon container of universal waste batteries (see Attachment 3, Photo 2). Mr. Terrell stated batteries are picked up by Clean Harbors Environmental Services, Inc. and transported to Clean Harbors (NED981723513) in Kimball, NE for recycling. Mr. Terrell stated the facility generates the universal waste batteries by replacing old batteries in equipment. The 5-gallon container was closed, in good condition, and labeled as "Universal Waste Batteries". The label showing "Universal Waste Batteries" also included the accumulation start date of "11/21/2021". A manifest for a shipment of universal waste batteries is provided in Attachment 16 as an example.

I asked Mr. Terrell if the facility generates waste lamps on site and how they are managed. Mr. Terrell stated the facility switched most of its lighting to light emitting diode (LED) lighting and the facility no longer generates many universal waste lamps. Mr. Terrell estimated MECNN generates approximately five waste lamps per year. I observed two 4-ft fiberboard containers of universal waste lamps (see Attachment 3, Photo 3). The containers were in good condition and labeled as "Universal Waste Used Lamps." The label showing "Universal Waste Used Lamps"

had the earliest accumulation start date of “8/8/2021.” The containers contained two used lamps each.

I reviewed the management of the universal waste batteries and lamps and no issues or findings were noted.

Used Oil Filters:

I did not visually observe any oil filters on site. Mr. Terrell stated the used oil filters are punctured and hot drained into the 155-gallon tank. The used oil filters would then be added to the scrap metal 20-yard container. Mr. Terrell stated that the facility generates an equivalent of approximately two 55-gallon containers of used oil filters per year. I reviewed the management of used oil filters and no issues or findings were noted.

Scrap Metal:

MECNN generates approximately one 20-yard container of scrap metal per month. Scrap metal is generated from maintenance replacing equipment parts and decommissioning activities. The facility accumulates all scrap metal waste in two 20-yard containers that are picked up by All Metals Market in Fremont, NE for recycling. One 20-yard container is picked up once per month. I reviewed the management of scrap metal and no issues or findings were noted.

Aerosol Cans:

MECNN generates approximately one 55-gallon container of spent aerosol cans per year. Mr. Terrell stated that the maintenance department generates the majority of the spent aerosol cans. Mr. Terrell explained that MECNN manages all aerosol cans as D001 and D003 hazardous waste. I observed one 55-gallon container of hazardous waste aerosol cans that was approximately 3/4 full (see Attachment 3, Photo 4). The container was closed, in good condition, labeled as “Hazardous Waste,” and labeled with an indication of the nature of the hazard. Clean Harbors Environmental Services, Inc. transports the aerosol cans to Clean Harbors (NED981723513) in Kimball, NE for recycling. I reviewed the management of aerosol cans and no issues or findings were noted.

5.0 SUMMARY OF FINDINGS

I observed no issues or findings during this inspection. However, further EPA review may add findings.

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Joseph Watson
Senior Chemical Engineer
Date: September 15, 2022

**AMBER
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Amber Whisnant
Section Chief
ECAD/CB/RCRA, EPA Region 7
Date: _____

Attachments:

1. Site Overview (6 pages)
2. MidAmerica Energy Photolog (1 page)
3. MidAmerica Energy Photos (8 Photos/9 pages)
4. EPA Inspection Checklist (19 pages)
5. Confidentiality Notice (1 page)
6. Receipt for Documents and Samples (1 page)
7. Hazardous Waste Site Information Verification Report (1 page)
8. Waste Profile Summary (11 pages)
9. Parts Washer Solution SDS (9 pages)
10. Parts Washer Manifest (1 page)
11. Special Waste Disposal Authorization (2 pages)
12. Analytical Results Used Oil and Oily Debris (19 pages)
13. Oil Impacted Debris Waste Profile (4 pages)
14. Antifreeze and Used Oil Bill of Lading (2 pages)
15. UW Certificates of Recycling (2 pages)
16. Hazardous Waste Manifests (4 pages)
17. Bead Blast Debris Analytical Results (12 pages)