

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection**

N295448544

FACILITY: Cargill Salt - Hersey		SRN / ID: N2954
LOCATION: 1395 135th Ave, HERSEY		DISTRICT: Cadillac
CITY: HERSEY		COUNTY: OSCEOLA
CONTACT: Kip Cosan , EHS Professional		ACTIVITY DATE: 04/16/2019
STAFF: Kurt Childs	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: 2019 FCE		
RESOLVED COMPLAINTS:		

**2019 Full Compliance Evaluation (FCE)**

I conducted an FCE, including a site inspection on April 16, 2019 of Cargill Salt – Hersey in accordance with the Cadillac District inspection plan. The purpose of the FCE was to determine compliance with Renewable Operating Permit MI-ROP-N2954-2014d and the Air Pollution Control Rules. Cargill Salt – Hersey produces various sodium chloride salt products by dissolving, concentrating and evaporating sodium chloride brine.

Prior to entering the plant I made some off-site observations. The weather was overcast and misting with a temperature of 40 degrees F and moderate, winds (10 mph). It was very damp outside, and I did not observe any fugitive dust emissions (EUNACLREFINERY SC 1.7). Water vapor plumes were visible from the stacks, but the weather conditions prevented the determination of visible emissions. Visible emissions are normally not present from any of the stacks.

At the time of the inspection I met with Ms. Kip Cosan to conduct the site inspection and review company records, as well as to discuss ROP renewal and MAERS reporting. Cargill Salt has submitted a PTI application to revise their potential to emit (PTE) based on the past removal of the potash plant, to become a true minor source - not required to have an ROP. Therefore, they have not submitted an ROP renewal application within the required timeframe to obtain an application shield. MI-ROP-N2954-2014d expires on September 23, 2019. I discussed this issue with Ms. Cosan and Mr. Karl Tomaszewski, the site manager, including the fact that they would not have authorization to operate past September 23, 2019 unless the PTI is issued by then.

I had initiated a review of the current MAERS submittal prior to the question and had one question regarding the development of PM emission factors for the salt dryer/cooler. The required information was provided by Ms. Cosan and Ms. Korbyn Danielson.

Ms. Cosan and I reviewed ROP recordkeeping requirements prior to inspecting the plant. Most of the monitoring records are maintained in the plant control room and were reviewed during that portion of the inspection. Prior to the inspection I had reviewed past reporting and determined that all of the required reports had been provided in a complete and timely manner during the FCE review period.

We proceeded to the plant control room to review control device operating parameter logs and other operating data. The plant houses the turbine, HRSG, and salt refinery all of which were operating at the time of the inspection. Cargill Salt staff inspect and record monitoring data from the salt cooler scrubber, salt dryer scrubber, and salt compaction scrubber twice per shift (4 times per day). The most recent month's records were available in the control room and additional records are on file.

I reviewed the records which indicated all observed readings were within the operating parameters specified in the MAP, ROP and CAM plan. The scrubber monitoring gauges are required to be calibrated annually and records of the calibration maintained. At the time of the inspection the Cargill Salt employee responsible for this was not available so I requested the records for 2018 be provided following the inspection. I received these records from Ms. Cosan on April 17, 2019 which are attached. These include maintenance work orders for annual calibration of the monitoring gauges on each of the scrubbers (EUNACLREFINERY SC VI.2 and 3). There is one work order for each scrubber that covered all of the monitors for that scrubber. These work orders indicated that each of the monitors had been calibrated.

Process	Date	Work Order Number
Salt Dryer Scrubber	10/22/18	403027586
Salt Cooler Scrubber	11/29/16	403026934
Salt Compaction Scrubber	11/28/16	403027159

Daily natural gas usage is tracked in the control room and is available on the plant computer system. There are no limits on usage, only a requirement to track usage daily for the salt dryer burner (SC VI.5), turbine (SC VI.2), and duct burner (SC VI.2). An example of daily usage I observed for each was:

Process	Daily Natural Gas Usage (cubic ft./hr.)
Turbine	1471.3
Duct Burner	320.6

Ms. Cosan and I inspected the remainder of the plant, stopping to observe and record the scrubber monitor readings. My observations were as follows:

Process	Observed Inlet Pressure	Limits (CAM)	Observed Differential Pressure	Limits (CAM)	Observed Nozzle pressure / flow	Limits (CAM)
Salt Cooler Scrubber	9.5"	8.8" – 16.3"	11.0"	8.8" – 13.2"	22 psig	10.2" – 30.4"
Salt Dryer Scrubber	6"	5" – 10.2"	11.0"	9" – 13.6"	21 psig	7.6" – 30.4"
Salt Compacti-on Scrubber	11.0"	9.1" – 18.2"	15.0	11.5" – 17.3"	286 gpm	234 gpm – 350 gpm

These readings were consistent with those I observed on the plant log sheets and with the limits in the MAP and ROP.

The ROP does not contain any requirements to calculate and record emissions. Continuous compliance with the emission limits is based on stack testing and monitoring of operating parameters established during the most recent stack test. Emissions calculations and estimates are provided each year with the MAERS submittal.

EUNACLREFINERY requires emissions testing every five years and was last conducted on March 14, 2018. That testing demonstrated compliance with the NOx and PM emission limits for the salt dryer/cooler and the salt compaction scrubber stacks.

EUNACLREFINERY SC I.7 prohibits visible emissions from the evaporator building and salt compaction building (these buildings house the crushing/grinding, screening, conveying, and bagging operations subject to 40 CFR 60 Subpart OOO). SCs V.1 and VII.8 contain testing and reporting requirements to demonstrate compliance with this limit. As previously stated, the AQD has received semi-annual reports of the required Method 22 testing that demonstrate compliance with SC I.7.

EUTURBINE and EUHRSG contain emission limits and natural gas fuel quality limits of 0.01% by weight, of sulfur, as well as emissions testing requirements. There aren't any continuous compliance monitoring requirements to demonstrate ongoing compliance with the emission limits other than the fuel quality requirement. Annual gas analysis is conducted, and I requested a copy of the most recent report. The report was received on 4/17/2019 and is attached. The report is from the natural gas supplier DTE Gas Company and does not include sulfur content, but the fuel is pipeline quality natural gas.

Emissions testing is required every five years and was last conducted on February 9 and 10, 2016. That testing demonstrated compliance with the NOx emission limits for EUTURBINE and EUHRSG.

The Source-Wide Conditions and EUNACLREFINERY contain requirements to maintain and operate in compliance with an approved Malfunction Abatement Plan (MAP). The AQD has a copy of the approved plan dated March 2017 on file. SCs III.3 through 5 of EUNACLREFINERY require that the scrubbers operate with the ranges specified in the MAP. The most recent plan update incorporated the most recent operating ranges established during testing.

**Summary**

As a result of this inspection it appears that Cargill Salt – Hersey is currently in compliance with the requirements of MI-ROP-N2954-2014d and the Air Pollution Control Rules.

NAME 

DATE 4-17-19

SUPERVISOR 