DES
DEPARTMENT OF ENVIRONMENT AND SUSTAINABILITY
air quality | desert conservation PROGRAM | sustainability

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PART 70 OPERATING PERMIT TECHNICAL SUPPORT DOCUMENT
(STATEMENT of BASIS)

APPLICATION FOR:
Administrative Revision

SUBMITTED BY:
EMD Acquisition LLC

FOR:
EMD Acquisition LLC
Source: 00095

LOCATION:
560 West Lake Mead Parkway
Henderson, Nevada 89015

SIC code 2819, "Industrial Inorganic Chemical Manufacturing"
NAICS code 325180, "Other Basic Inorganic Chemical Manufacturing"

Application Received: December 9, 2024

TSD Date: April 2, 2025

EXECUTIVE SUMMARY

EMD Acquisition LLC, formerly Tronox LLC, (the source) is located within the BMI industrial park in Henderson, Nevada. The legal description of the source location is: portions of T22S, R62E, Sections 12-13 in Las Vegas Valley, County of Clark, State of Nevada. The source is situated in the Las Vegas Valley Hydrographic Area 212. The Las Vegas Valley is currently designated as attainment for all pollutants except ozone. The Las Vegas Valley Hydrographic Basin 212 was designated marginal nonattainment for ozone on August 3, 2018. The designation did not impose any new requirements at that time. Hydrographic basin 212 was designated a moderate nonattainment area for ozone on January 5, 2023. The designation did not impose any new requirements at that time. Hydrographic basin 212 was designated a serious nonattainment area for ozone on January 21, 2025. Clark County has drafted or imposed new requirements to address this designation.

The source is classified as a Categorical Stationary Source (chemical process plants), as defined by AQR Section 12.2.2(j)(21). The source is categorized under SIC Code 2819 Industrial Inorganic Chemical Manufacturing and NAICS code: 325180: Other Basic Inorganic Chemical Manufacturing. The source identified themselves as a major source for single hazardous air pollutants (HAP) (as manganese compounds) May 6, 2014, and as a major source of total HAP based on the revision application submitted on November 13, 2023. The source is a synthetic minor of PM_{10} and a true minor for $PM_{2.5}$, NO_x, CO, SO_2, and VOC. The source emits greenhouse gases (GHG) and it is not a major source for GHG emissions.

The source operates chemical processes which produce inorganic chemicals. The three primary chemicals are manganese dioxide (MnO_2), elemental boron and boron trichloride (BCl_3). The source also produces Advanced Battery Materials (ABM) from the MnO_2. In addition, the source also operates diesel-fired emergency engines, natural gas boilers, cooling towers, a gasoline tank, roads and stockpiles and a laboratory to support operations, some of which are deemed insignificant units or activities.

Pursuant to a Hearing Officer Order, the source has submitted a revision application to make changes to emission units, revise Single HAP emissions, revise Total HAP emissions, speciate lead emissions from the HAP, and address housekeeping issues. DAQ issued a revised Part 70 Operating Permit based in part on this submittal.

The following table summarizes the source potential to emit for each regulated air pollutant from all emission units addressed by this Part 70 Operating Permit:

Table 1: Source Potential To Emit and Program Applicability

Pollutant	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP (Mn Compounds)	HAP (Pb Compounds_	Total HAPs	H_2S	HCl	Cl_2	GHG[2]
Tons/year	33.32	13.73	40.34	19.86	0.38	3.96	23.11	0.06	25.05	0.02	0.39	0.01	74,170
Major Source Thresholds (Title V)	100	100	100	100	100	100			10/25[1]				
PSD (Categorical)	100	100	100	100	100	100			10/25[1]				

Major Stationary Source Threshold (Nonattainment)			100			100							

[1]Ten tons for any individual hazardous air pollutant, or 25 tons for the combination of all hazardous air pollutants.
[2]Metric tons per year, CO_2e.

DAQ will continue to require the sources to estimate their GHG potential to emit in terms of each individual pollutant (CO_2, CH_4, N_2O, SF_6 etc.). The TSD includes these PTEs for informational purposes.

This source is subject to 40 CFR Part 60, Subpart Dc, and 40 CFR Part 63, Subpart ZZZZ, Subpart DDDDD, and Subpart CCCCCC.

DAQ has received delegated authority from the U.S. Environmental Protection Agency (EPA) to implement the requirements of the Part 70 OP. Based on the information submitted by the applicant, supplemental information provided to the application, and a technical review performed by DAQ staff, the draft renewal Part 70 OP to EMD Acquisition LLC is proposed.

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I. ACRONYMS

Table I-1: List of Acronyms

Acronym	Term
ANFO	ammonium nitrate-fuel oil
AQR	Clark County Air Quality Regulation
ATC	Authority to Construct
BLM	Bureau of Land Management
CF	control factor
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CD	control device
DAQ	Division of Air Quality
DES	Clark County Department of Environment and Sustainability
DOM	date of manufacture
EF	emissions factor
EPA	U.S. Environmental Protection Agency
EU	emission unit
g/dscm	gram per dry standard cubic meter
gr/dscf	grains per dry standard cubic feet
GHG	greenhouse gas
HA	Hydrographic Area
HAP	hazardous air pollutant
hp	horsepower
kW	kilowatts
MMBtu/hr	Million British Thermal Units per Hour
NAAQS	National Ambient Air Quality Standard
NAICS	North American Industry Classification System
NO_X	nitrogen oxide(s)
$PM_{2.5}$	particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10}	particulate matter less than 10 microns in aerodynamic diameter
PSD	prevention of significant deterioration
PTE	potential to emit
RACT	Reasonably Achievable Control Technology
SCC	Source Classification Code
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	sulfur dioxide

Acronym	Term
SOP	standard operating procedure
TDS	Total Dissolved Solids
TPH	tons per hour
UTM	Universal Transverse Mercator
VGF	vibrating grizzly feeder
VMT	vehicle miles traveled
VOC	volatile organic compound

II. SOURCE DESCRIPTION

A. PROCESS DESCRIPTION

The source is located in the BMI industrial park in Henderson, Nevada. The source manufactures inorganic chemicals. The source identified themselves as a major source for single Hazardous Air Pollutants (HAP) (as Manganese Compounds) in 2014. The source became major for Total HAP based on the revision application submitted on November 13, 2023, and was addressed in the renewal application submitted on April 2, 2024. The source is a synthetic minor of PM_{10} and a true minor for $PM_{2.5}$, NO_x, CO, SO_2, and VOC. The source emits greenhouse gases (GHG) and it is not a major source for GHG emissions.

The source is an inorganic chemical manufacturing plant that produces three primary chemicals:

MnO_2 – used in alkaline batteries;

Elemental boron – a component in automotive safety igniters; and

BCl_3 – used in the pharmaceutical and semiconductor industries, and the manufacture of high-strength boron fibers for the sporting equipment and aircraft industries.

In support of these processes, the source has uses four diesel-fired emergency generators. There are also two large boilers, two cooling towers, haul roads, stockpiles, disturbed surfaces and a gasoline dispensing operation.

B. ALTERNATE OPERATING SCENARIO(S)

None proposed.

C. PERMITTING HISTORY

This is a renewal with revisions to the Part 70 OP. The following represents permitting activities prior to this permitting action since the last renewal:

Table II-C-1: Permit History

Issue Date	Description
11/18/2019	Initial Part 70 OP issued
6/29/2020	Significant Revision (ATC)
7/13/2020	Notice and go
8/31/2020	Administrative Revision
11/17/2021	RFC
11/17/2021	RFC
5/23/2022	Notice and go
11/6/2023	Notice and go
11/14/2023	Notice and go
1/11/2024	Minor revision
11/20/2024	Renewal

D. CURRENT PERMITTING ACTION

Administrative Revision (initiated 12/9/2024)

The permittee and DES found typographical errors in the renewal permit issued on November 20, 2024, and on December 9, 2024, proposed the following corrections:

- Correct the model number for EU A04 from 250R0ZD7 to 250R0ZD71.
- Correct EU CT04's description from "Cooling Tower #1" to "Cooling Tower #4."
- Correct the citation for the Gasoline Tank (EU: T01) in the Control Requirements section from "Mod 13" to "Mod 12 and 13" and have it after the condition instead of the subheading.

None of these changes affect the emissions units, PTE of the source, rule applicability, or any controls analysis. The remainder of this TSD discusses the renewal with revisions issued on November 20, 2024.

Renewal with Revisions (Issued November 20, 2024)

The permittee submitted applications for revisions and the renewal on November 13, 2023, and April 2, 2024, respectively. The application was supplemented on May 14, 2024.

In the renewal with revisions of the Part 70 OP the permittee requested the following:

a. Increase the lead concentration in material following the Leach Process from 5 ppm to 8,500 ppm. After subsequent assays, the initial lead assay of these in-process samples was found to be on the very low end of the possible range so the associated concentration limit is being raised to a maximum expected content to accommodate the variability.

b. Replace industrial cooling tower CT01 with a new industrial cooling tower CT04.

c. Remove Part 70 OP Condition 2.2.39 related to loading reduced ore into loaders– denied by DAQ. Instead of removing the condition, DAQ will revise the condition, and related conditions, to accurately reflect the actual process description where the supersacks are loaded by forklift into the polishing bins. This changes the revision from a significant revision to a minor revision because it is a correction/clarification rather than a relaxation.

In addition to changes proposed by the applicant, DAQ made the following changes to the permit:

a. Addressed request from Compliance to clarify in the permit the timing of subsequent performance testing. This change clarifies the timing of annual performance testing.

b. Add a throughput to EUs: 1C-7C, 1M-8M, 1F-11F, and 1D after-leaching parts of the process so that an 80 to 100% of permitted maximum throughput can be identified for compliant performance testing. Because the emission factor for these parts of the process was based on stack testing, resulting in an emission factor in units of mass/hour, identifying the throughput has no change on the emissions.

c. Updated the operational limits for emergency generator operation during demand response to the latest standard language.

d. Updated permit to current standard language as needed.

e. Corrected the opacity limit in the emission limits section for the crusher baghouse to the correct value per AQR 26 (10% in all tables).

f. Removed the conditions requiring engines to have turbochargers and aftercoolers. This is current DAQ practice.

III. EMISSIONS INFORMATION

A. EMISSION UNITS LIST

Table III-A-1 lists the emission units covered by this Part 70 OP.

Table III-A-1: Summary of Emission Units

EU	Description	Rating	Make	Model #	Serial #
Emergency Engines					
A01	Emergency Generator		Kohler	50R0ZJ61	338784
	Diesel Engine, DOM: Pre 2006	92 HP	John Deere	TO4039T427 638[1]	
A02	Emergency Generator		Kohler	100R0ZJ71	378083
	Diesel Engine, DOM: Pre 2006	166 HP	John Deere	CD6059T279 209[1]	
A03	Emergency Generator		Kohler	100R0ZJ71	37802
	Diesel Engine, DOM: Pre 2006	166 HP	John Deere	CD6059T279 212[1]	
A04	Emergency Generator		Kohler	250R0ZD71[1]	356117
	Diesel Engine, DOM: Pre 2006	423 HP	John Deere	06VF209030[1]	
Large Boilers					
A05	Boiler, Natural Gas	96.6 MMBtu/hr	Cleaver Brooks	DLD-700-94 (R.H.)	W002895
A07	Boiler, Natural Gas	72.0 MMBtu/hr	Murray Trane	MCF4-57	10851
Roads and Disturbed Surfaces					
B01	Disturbed Surfaces, 6.00 Acres				
G01	Paved Roads, 5,866 VMT/year				
Boron Process					
E003	Boron Process System– Process other than the firing chambers, including Boron Grinding Mill and Crusher, 10 hp Baghouse				
E004	Boron Process – Firing Chambers (20), 15 hp Baghouse				
Boron Trichloride Process					
F006	Boron Trichloride Process – Boron Trichloride Reactors (5) and Refining Process, Scrubber				

EU	Description	Rating	Make	Model #	Serial #
Manganese Dioxide Processing					
MN01A	Manganese Dioxide Process: Ore Delivery to Storage EU: MN06A (fugitive PM)				
MN01B	Manganese Dioxide Process: Ore Transfer to Hearths with Baghouse (uncaptured PM)				
MN01C	Manganese Dioxide Process: Hearth Turning with Baghouse (uncaptured PM)				
MN01D	Manganese Dioxide Process: Hearth Harvesting with Baghouse (uncaptured PM)				
9555	Manganese Dioxide Process: East Polishing Bin with Baghouse (uncaptured PM)				
9556	Manganese Dioxide Process: West Polishing Bin with Baghouse (uncaptured PM)				
1D	Manganese Dioxide Process: Unit 6 – Rotary Drum Dryer With Collector/Baghouse, 4.8 tons/hr				
1C	Manganese Dioxide Process: Unit 6 – Loader to tank 49, Tank 49 to Conveyor 20 with Crusher Baghouse, 4.5 tons/hr				
2C	Manganese Dioxide Process: Unit 6 – Conveyor 20 to Jaw Crusher, SOLH03 Jaw Crusher, Jaw Crusher to Conveyor 22, with Crusher Baghouse, 4.5 tons/hr				
4C	Manganese Dioxide Process: Unit 6 – Conveyor 22 to Screen 02, Screen 02 (oversize), Screen 02 to tank 53 (oversize bin), Screen 02 to Tank 65 with Crusher Baghouse, 4.5 tons/hr				
5C	Manganese Dioxide Process: Unit 6 – Tank 53 (oversize bin), Tank 53 to Conveyor 23 with Crusher Baghouse, 4.5 tons/hr				
6C	Manganese Dioxide Process: Unit 6 – Conveyor 23 to Gyratory Crusher, SOLH3C Gyratory Crusher, Gyratory Crusher to Conveyor 22 (recirculation) with Crusher Baghouse, 4.5 tons/hr				
7C	Manganese Dioxide Process: Unit 6 – Tank 65 to Conveyor 24, Conveyor 24 to Conveyor 25, Conveyor 25 to Conveyor 05 with Crusher Baghouse, 4.5 tons/hr				

EU	Description	Rating	Make	Model #	Serial #
1M	Manganese Dioxide Process: Unit 6 – Conveyor 05 to Tank 38, Tank 38 to Tank 70 (100 ton bin), Tank 38 to Conveyor 06, Tank 38 to Conveyor 07, Tank 38 to Conveyor 28 with Mill Feed Baghouse, 4.5 tons/hr				
2M	Manganese Dioxide Process: Unit 6 – Conveyor 07 to Conveyor 09 with Mill Feed Baghouse, 4.5 tons/hr				
3M	Manganese Dioxide Process: Unit 6 – Conveyor 06 to Conveyor 08 with Mill Feed Baghouse, 4.5 tons/hr				
4M	Manganese Dioxide Process: Unit 6 – Conveyor 28 to Tank 71 with Mill Feed Baghouse, 4.5 tons/hr				
5M	Manganese Dioxide Process: Unit 6 – Tank 71 (west bin) to Conveyor 3H with Mill Feed Baghouse, 4.5 tons/hr				
6M	Manganese Dioxide Process: Unit 6 – Tank 70 (100 ton bin) to Conveyor 29 with Mill Feed Baghouse, 4.5 tons/hr				
7M	Manganese Dioxide Process: Unit 6 – Conveyor 29 to Conveyor 32, Conveyor 32 to Conveyor 33, Conveyor 33 to Tank 38 (recirculation) with Mill Feed Baghouse, 4.5 tons/hr				
8M	Manganese Dioxide Process: Unit 6 – Conveyor 3H to Conveyor 3M with Mill Feed Baghouse, 4.5 tons/hr				
1F	Manganese Dioxide Process: Unit 6 – Dryer Baghouse fines to Conveyor 13, Finishing Baghouse Fines to Conveyor 39, Conveyor 39 to Conveyor 14, Conveyor 13 to Conveyor 14, with Finishing Baghouse, 4.5 tons/hr				
2F	Manganese Dioxide Process: Unit 6 – Conveyor 14 to Screen 03, Screen 03 (Rotex Screen), Screen 03 to Tank 72, Conveyor 34 to Screen 03, with Finishing Baghouse, 4.5 tons/hr				
3F	Manganese Dioxide Process: Unit 6 – Conveyor 14 to Screen 01, Screen 01 (Rotex Screen), Screen 01 to Tank 72, Conveyor 34 to Screen 01, with Finishing Baghouse, 4.5 tons/hr				
4F	Manganese Dioxide Process: Unit 6 – Screen 01 and Screen 03 to Oversize Air Slide, Oversize Air Slide to Dyna Slide, Dyna Slide to Rotex Slurry Tank, with Finishing Baghouse, 4.5 tons/hr				

EU	Description	Rating	Make	Model #	Serial #
5F	Manganese Dioxide Process: Unit 6 – Tank 72 to Conveyor 27 (Pneumatic Conveyor), Conveyor 27 (Pneumatic Conveyor) to Tank 73 (Product Silo), Conveyor 34 to Tank 72, with Finishing Baghouse, 4.5 tons/hr				
6F	Manganese Dioxide Process: Unit 6 – MISC 35 (Fast Dump Station), MISC 35 to Conveyor 35, Conveyor 35 to Conveyor 34, with Finishing Baghouse, 4.5 tons/hr				
8F	Manganese Dioxide Process: Unit 6 – Tank 73 (Product Silo) to Blender #2 (East Blender), Blender #2 (East Blender), Blender #2 (East Blender) to West Bagger, with Finishing Baghouse, 4.5 tons/hr				
9F	Manganese Dioxide Process: Unit 6 – Tank 73 to Conveyor 31 (Air Slide), Conveyor 31 (Air Slide) to Blender #1 (West Blender), Blender #1 (West Blender), Blender #1 (West Blender) to East Bagger, with Finishing Baghouse, 4.5 tons/hr				
10F	Manganese Dioxide Process: Unit 6 – East Supersack Loading, with Finishing Baghouse, 4.5 tons/hr				
11F	Manganese Dioxide Process: Unit 6 – West Supersack Loading, with Finishing Baghouse, 4.5 tons/hr				
M02	Manganese Dioxide Process: Unit 6 – EMD Plate Crushing, Crushed plate Transfer				
MN02	Manganese Dioxide Process: Hearth Baghouse Stack, and Polishing Bins (stack emissions)				
MN03	Manganese Dioxide Process: Hearth CO Reduction Reactor Stack (stack emissions)				
Electrolytic Manganese Dioxide Cells					
MN04	Manganese Dioxide Process: 217 EMD Cells				
Sulfiding Process					
MN05	Sulfiding Process				
Process Stockpiles					
MN06A	Ore Storage Stockpiles (MnO_2 ore, outdoor)				
MN06B	Crushed Plate Stockpile (MnO_2 in Unit 6)				

EU	Description	Rating	Make	Model #	Serial #
Cooling Towers					
CT03	Cooling Tower #3, 4,000 ppm, 0.001% Drift, (at Unit 5)	1,485 GPM	Baltimore Aircoil	S15E-1212-12-MN	U220340603_01-01
CT04	Cooling Tower #4, 4,000ppm, 0.001% drift, (at Leach Plant)	300 GPM	Baltimore Aircoil	XES15E-1285-06FN	3386-101
Gasoline Dispensing					
T01	Gasoline Tank, 1,000 Gallon, Aboveground				
Advanced Battery Manufacturing					
ABM01	ABM Process 1 Consisting of an ABM Jet Mill System. ABM Jet Mill System Includes the Following Operations/Equipment: End Superstack to Jet Mill, ABM Jet Mill, Collector #1, Tote Bin from Dust Collector, Vent Blower, with Collector/Baghouse (Baghouse #1)				
ABM02	ABM Process 2 Consisting of an ABM Classifier "A" System. ABM Classifier System Includes the Following Operations/Equipment: Feed Tote Bin to Classifier "A", Classifier "A", Course Material Tote Bin from Classifier "A", Classifier Cyclone, Cyclone Fines Drum, Collector #2, Drum of Fines from Dust Collector, Vent Blower, with Collector/Baghouse (Baghouse #2)				
ABM03	ABM Process 3 Consisting of an ABM DPM Mill System. ABM DPM Mill System Includes the Following Operations/Equipment: Feed Tote to DPM Mill, DPM Mill, Collector #4, Tote Bin from Dust Collector, Vent Blower, with Collector/Baghouse (Baghouse #3)				
ABM04	ABM Process 4 Consisting of an ABM Conversion Calciner System Routed to Calciner Baghouse. ABM Conversion Calciner System Includes the Following Operations/Equipment: Feed Tote Bin to Conversion Calciner, Conversion Calciner (3-Zone), Product Tote Bin from Conversion Calciner, Feed Tote Bin to Product Packaging, Product Packaging, Vent Blower, Secondary Filter, with Calciner/Baghouse (Baghouse #1)				

[1] This is the only number that can be found on the engine itself.

The following units or activities listed in in Table III-A-2 are present at this source, but are deemed insignificant.

Table III-A-2: Insignificant Activities

Description
20,000-gallon diesel above-ground storage tank
Housecleaning vacuums
Boron trichloride crude reboiler <0.10 MMBtu/hr
Boron trichloride refined reboiler <0.10 MMBtu/hr
Manganese dioxide process laboratory vent stacks
Wet grinding mill and filter and associated equipment previously permitted as EU: M04 (Mod 13)

B. SOURCE-WIDE PTE

The source identified themselves as a major source for single hazardous air pollutants (HAP) (as manganese compounds) May 6, 2014, and as a major source of total HAP based on the minor Authority to Construct application submitted on November 13, 2023. The renewal application of April 2, 2024, and its supplements addresses the ATC as well. The source is a synthetic minor of PM_{10} and a true minor for $PM_{2.5}$, NO_x, CO, SO_2, and VOC. The source emits greenhouse gases (GHG) and it is not a major source for GHG emissions.

Table III-B-1: Source-wide PTE (tons per year)

Pollutant	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP (Mn Compounds)	HAP (Pb Compounds)	Total HAPs	H_2S	HCl	Cl_2	GHG[2]
Tons/year	33.32	13.73	40.34	19.86	0.38	3.96	23.11	0.06	25.05	0.02	0.39	<0.01	74,170

[1]Metric tons per year.

C. EMISSIONS CALCULATIONS

Table III-C-1 summarizes the Applicability/Classification.

Permitting applicability and classification is determined by calculating the emissions for all proposed emission units using 8,760 hours of operation (except for emergency generators or fire pumps, which use 500 hours), any inherent controls, any inherent throughput limitations, and the emission factors provided by the manufacturer, by source test results, by EPA AP-42, or by other approved methods.

Applicability emissions include emissions from insignificant emission units and activities, but do not include fugitive emissions (except for categorical sources listed in AQR 12.2.2(j) or any other stationary source category that, as of August 7, 1980, is being regulated under Sections 111 or 112 of the Act). The source is a categorical source so fugitive emission are included in the applicability and source determination calculations. Detailed calculations are available in the source file.

Table III-C-1 shows the various thresholds for applicability.

Table III-C-1: Total Source Applicability

Pollutant	PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP (Mn Compounds)[1]	HAP (Pb Compounds)[1]	HAP (total)[1]	H_2S	HCl	Cl_2	GHG[1]
AQR 12.1.1(d) Applicability Thresholds	5	5	5	25	25	5	n/a	0.3	n/a	1			
Major Source Thresholds	100	100	100	100	100	100	10	10	10/25				
Nonattainment NSR Thresholds	100	100	100	100	100	100	n/a	n/a	n/a				
PSD (Categorical)	100	100	100	100	100	100	n/a	n/a	n/a				
Applicability Emissions Total	311.17	57.54	57.84	20.73	0.48	5.17	296.53	2.27	302.29	0.02	0.39	0.01	104,712

[1]10 tons for any single HAP, or 25 tons for any combination of HAP pollutants.

The source now exceeds the major source threshold for Total HAP and is therefore a major source of Total HAP. Since the applicability emissions of PM_{10} exceeds the major source threshold, but the PTE of PM_{10} is below the threshold, the source is a synthetic minor of PM_{10} emissions.

The following tables summarize the PTE.

PTE is calculated to include any controls or limits, whether voluntarily proposed by the source or required. PTE does not include insignificant emission units and activities, but does include fugitive emissions.

Table III-C-2 shows the PTE associated with this source; PTE calculations are included in the attachments.

Table III-C-2: Total Source PTE (tpy)

PM_{10}	$PM_{2.5}$	NO_X	CO	SO_2	VOC	HAP (Mn Compounds)	HAP (Pb Compounds)	HAP (total)	H_2S	HCl	Cl_2	GHG[1]
33.32	13.73	40.34	19.86	0.38	3.96	23.11	0.06	25.05	0.02	0.39	<0.01	74,170

Emission Increase

Table III-C-3: Emissions Increase (tpy) (including fugitives)

	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	H_2S	Pb
Threshold for Significance (12.1)	7.5	7.5	20	35	40	20	5	0.6
Minor NSR Significance (12.4)	7.5	5.0	20	50	20	20	5	0.6
Significant 12.3.2(dd)	15	10	40	100	40	40	-	0.6

Existing Permit PTE	33.30	13.73	40.34	19.86	0.38	3.96	0.02	0.03
New Permit PTE	33.32	13.73	40.34	19.86	0.38	3.96	0.02	0.06
Total Δ PTE	0.02	0	0	0	0	0	0	0.06[1]
Triggers	No	No	No	No	No	No	No	No

[1]The emission increase of lead is the total new PTE because the previous emission factors were found to be faulty, and extremely low, for the EUs after the leaching process. This value remains well below any significance level.

The emission increase associated with this permit action does not trigger a controls analysis. Emission changes associated with clarifications or by breaking single HAPs out of the Total HAP would not be counted as an increase for this evaluation.

As shown in Table III-C-2, GHG emissions remain below the 100,000 tpy threshold for additional action. Therefore, no new requirements have been triggered, and no new conditions placed in the permit.

Emissions Statement

Any stationary source that actually emits a total of 25 tons or more of NO_x and/or 25 tons or more of VOCs is required to submit an annual emissions statement for both pollutants. The statement must provide actual annual NO_x and VOC emissions from all activities, including emission units, insignificant activities, and exempt activities, and will be separate from the emissions inventory (i.e., calculated annual emissions) report permittees submit each year. This requirement shall be a permit condition for any source with the potential to emit at least 20 tons of NO_x and/or VOCs.

D. OPERATIONAL LIMITS

Emergency engines shall be limited to operating 100 hours per year for testing and maintenance purposes, including nonemergency limitations. On May 1, 2015, the U.S. Court of Appeals for the District of Columbia Circuit issued a decision to vacate provisions in 40 CFR Part 60, Subpart IIII; 40 CFR Part 60, Subpart JJJJ; and 40 CFR Part 63, Subpart ZZZZ that allowed emergency engines to operate for demand response and when there is a deviation of voltage or frequency.

DAQ prohibited sources from operating emergency generators for those activities, consistent with the court decision and EPA's April 15, 2016, implementation memo. On August 10, 2022, EPA published a notice in the *Federal Register* (87 FR 48603) formally promulgating changes to the three CFR subparts listed above. Now, except as provided in 40 CFR Part 60.4211(f)(3)(i), and/or 40 CFR Part 60.4243(d)(3)(i), and/or 40 CFR Parts 63.6640(f)(4)(i) and (ii), emergency generators cannot by definition be used for peak shavings or nonemergency demand response, or to generate income for a facility by supplying power to an electric grid or to otherwise supply power as part of a financial arrangement with another entity (EUs: A01-A04).

No operational limits are changing with this permitting action. The conditions relating to demand response use of an emergency generator were updated to the latest standard language.

E. CONTROL TECHNOLOGY

Control requirements relating to the 0.001% drift limit of the drift eliminator and 4,000 ppm TDS in the recirculation water for the new cooling tower are the same as the one it replaced, and the other cooling tower at the source.

All other prior control requirements remain the same as in the previous permit.

F. MONITORING

All prior monitoring requirements remain the same or have been updated to current language. Monitoring requirements for the new cooling tower are the same as the one it replaced, and the other cooling tower at the source.

All prior CAM requirements remain the same.

G. PERFORMANCE TESTING

No new performance testing is required due to this permitting this action. Two conditions related to the subsequent performance testing timing were added to clarify when subsequent performance testing is to be performed relative to anniversary dates.

IV. REGULATORY REVIEW

A. LOCAL REGULATORY REQUIREMENTS

Air Quality has determined that the following public law, statutes and associated regulations are applicable:

1. Nevada Revised Statutes (NRS), Chapter 445B;
2. Portions of the AQR that are included in the State Implementation Plan (SIP) for Clark County, Nevada. SIP requirements are federally enforceable. All requirements from Authority to Construct permits and Section 16 Operating Permits issued by Air Quality are federally enforceable because these permits were issued pursuant to SIP-included sections of the AQR; and
3. Portions of the AQR that are <u>not</u> included in the SIP. These locally applicable requirements are locally enforceable only.

The Nevada Revised Statutes (NRS) and the Clean Air Act Amendments (CAAA) are public laws that establish the general authority for the Regulations mentioned.

The Air Quality Part 70 (Title V) Program received Final Approval on November 30, 2001 with publication of that approval appearing in the Federal Register December 5, 2001 Vol. 66, No. 234. AQR Section 19 - Part 70 Operating Permits [Amended 07/01/04] details the Clark County Part 70 Operating Permit Program. On September 20, 2010, Clark County submitted a revision to the operating permit program (AQR Section 12.5) pursuant to 40 CFR Part 70.4(i)(2). EPA has not acted on that request yet. These regulations may be accessed on the Internet at: https://www.clarkcountynv.gov/government/departments/environment_and_sustainability/division_of_air_quality/rules___regulations/current_aq_rules.php

Local regulations contain sections that are federally enforceable and sections that are locally enforceable only. Locally enforceable only rules have not been approved by EPA for inclusion into the State Implementation Plan (SIP). Requirements and conditions that that will eventually appear in the Part 70 OP which are related only to non-SIP rules are notated as locally enforceable only.

Table IV-A-1: Clark County Air Quality Regulations & SIP Status

Applicable Section – Title	Applicable Subsection – Title	SIP	Affected Emission Unit
0. Definitions	applicable definitions	yes	entire source
1. Definitions	"Affected Facility", "Dust", "Existing Gasoline Station", "Fumes", "Mist", "New Gasoline Stations", "New Source", "Single Source", "Standard Conditions", "Uncombined Water".	Yes	entire source
4. Control Officer	all subsections 4.7.3 and 4.12.1 through 4.12.3 in SIP	partial	entire source
5. Interference with Control Officer	all subsections	yes	entire source
6. Injunctive Relief	all subsections	yes	entire source
7. Hearing Board and Hearing Officer	all subsections	no	entire source
8. Persons Liable for Penalties - Punishment: Defense	all subsections	yes	entire source
9. Civil Penalties	all subsections	no	entire source
12.0. Applicability, General Requirements and Transition Procedures	all subsections	yes	entire source
12.2 Prevention of Significant Deterioration in Attainment Areas	all subsections	yes	entire source
12.3 Permit Requirements for Major Sources in Nonattainment Areas	all subsections	yes	entire source
12.4 Authority to Construct Permit Requirements for Part 70 Sources	all subsections	yes	entire source
12.5 Part 70 Operating Permit Requirements	all subsections	yes	entire source
12.6 Confidentiality	all subsections	yes	entire source
12.7 Emission Reduction Credits	all subsections	yes	entire source
12.9 Annual Emission Inventory Requirements	all subsections	yes	entire source

12.10 Continuous Monitoring Requirements for Stationary Sources	all subsections	yes	entire source
13. Emission Standards for Hazardous Pollutants	Delegated Program CCAQR Section 13.2(b)(82): Subpart ZZZZ National Emission Standards for Hazardous Air Pollutant for Stationary Reciprocating Internal Combustion Engines	no	diesel engines
	Delegated Program CCAQR Section 13.2(b)(86): Subpart DDDDD Standards of Performance for Industrial, Commercial, and Institutional Boilers and Process Heaters	no	boilers
14. New Source Performance Standards	Delegated Program CCAQR Section 14.1(b)(5): Subpart Dc Standards of Performance for Small Industrial – Commercial – Institutional Steam Generating Units	no	
18. Permit and Technical Service Fees	all subsections 18.1 through 18.5.2 and 18.6 through 18.12 in SIP	partial	entire source
21. Acid Rain Permits	all subsections	no	entire source
22. Acid Rain Continuous Emission Monitoring	all subsections	no	entire source
24. Sampling and Testing - Records and Reports	§ 24.1 Requirements for installation and maintenance of sampling and testing facilities § 24.2 Requirements for emissions record keeping § 24.3 Requirements for the record format § 24.4 Requirements for the retention of records by the emission sources (Note: Repealed from SIP on Oct 17, 2014)	no	entire source
25.1 Upset/Breakdown, Malfunctions (1981)	§ 25.1 Requirements for the excess emissions caused by upset/breakdown and malfunctions	no	entire source

25.2 Upset/Breakdown, Malfunctions (1981)	§ 25.2 Reporting and Consultation	yes	entire source
26. Emission of Visible Air Contaminants (1981)	§ 26.1 Limit on opacity (≤ an average of 20 percent for a period of more than 6 consecutive minutes)	yes	entire source
27. Particulate Matter from Process Weight Rate	all subsections	yes	entire source
28. Fuel Burning Equipment	Emission Limitations for PM	yes	entire source
29. Sulfur Contents of Fuel Oil	Repealed by County	yes	entire source
30. Incinerators	Repealed by County	yes	entire source
33. Chlorine in Chemical Processes	All subsections	yes	entire source
40. Prohibitions of Nuisance Conditions	§ 40.1 Prohibitions	no	entire source
41. Fugitive Dust	§ 41.1.2 Prohibitions	yes	entire source
42. Open Burning	§ 42.2	no	entire source
43. Odors In the Ambient Air	§ 43.1 Prohibitions coded as Section 29	no	entire source
52. Gasoline Dispensing Facilities	Most recent version repealed by County. Removal request rejected by EPA. SIP version circa 1979.	yes	entire source
60. Evaporation and Leakage	all subsections Repealed by County and from SIP in 2011	no	entire source
70. Emergency Procedures	all subsections	yes	entire source
80. Circumvention	all subsections	yes	entire source
81. Provisions of Regulations Severable	all subsections	yes	entire source
90. Fugitive Dust, Open Areas and Vacant Lots	all subsections	yes	entire source
91. Fugitive Dust, Unpaved Roads, Unpaved Alleys and Unpaved Easement Roads	all subsections	yes	entire source
93. Fugitive Dust, Paved Roads and Street Sweeping Equipment	all subsections	yes	entire source

B. FEDERALLY APPLICABLE REGULATIONS

1. Clean Air Act, as amended (CAAA), Authority: 42 U.S.C. § 7401, et seq.;
2. Title 40 of the Code of Federal Regulations (CFR);

40 CFR PART 60-STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES:

a. Subpart A - General Provisions

40 CFR 60.7-Notification and record keeping
Discussion: This regulation requires notification to Air Quality of modifications, opacity testing, records of malfunctions of process equipment and/or continuous monitoring device, and performance test data. These requirements are found in the Part 70 OP. Air Quality requires records to be maintained for five years, a more stringent requirement than the two years required by 40 CFR 60.7.

40 CFR 60.8 - Performance tests
Discussion: These requirements are found in the Part 70 OP. Notice of intent to test, the applicable test methods, acceptable test method operating conditions, and the requirement for three runs are outlined in this regulation. Air Quality also requires periodic performance testing on emission units based upon throughput or usage or compliance demonstration. Air Quality will require performance testing of the EUs and stacks that have new EF based on a small population of performance test results. Once the EF are proven out by a larger population of test results, a different subsequent test frequency can be discussed.

40 CFR 60.11 - Compliance with standards and maintenance requirements
Discussion: AQR Section 26 is more stringent than the federal opacity standards, setting a maximum of 20 percent obscurity for a period of more than 6 consecutive minutes. The source will operate in a manner consistent with this section of the regulation.

40 CFR 60.12 - Circumvention
Discussion: This prohibition is addressed in the Part 70 OP. This is also local rule AQR Section 80.1.

40 CFR Part 60 – New Source Performance Standards

Because the source is proposing a reclassification from minor source to major source, a new evaluation of applicable NSPS is required. Potentially applicable subparts are included with discussion.

40 CFR Part 60, Subpart D_C – Standards of Performance for Small; Industrial-Commercial-Institutional Steam Generating Units
Discussion: This rule applies to units constructed, modified or reconstructed after June 9, 1989 with rated capacity between 10 and 100 MMBtu/hr. EU A05 is of the right size and was constructed after the applicability date so Subpart D_C does apply to A05. EU A07 was built before this date so Subpart D_C does not apply.

40 CFR Part 60, Subpart K_b – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction or Modification Commenced After July 23, 1984
Discussion: This rule applies to vessels with capacity greater than 75 m^3. EU T01 is a gasoline storage tank of only 1,000 gallon capacity so Subpart K_b does not apply.

40 CFR Part 60, Subpart LL – Standards of Performance for Metallic Mineral Processing Plants

Discussion: This rule applies to units constructed, or modified, after August 24, 1982 processing metallic mineral containing aluminum, copper, gold, iron, lead, molybdenum, silver, titanium, tungsten, uranium, zinc or zirconium. The source does not process any ores containing these metals so Subpart LL does not apply.

40 CFR Part 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants

Discussion: This rule applies to units that process nonmetallic minerals, as defined, in a plant constructed prior to August 31, 1983. Only the Boron Grinding Mill processes one of the listed nonmetallic minerals, but it was constructed before the applicability date, so Subpart OOO does not apply to the source until a modification to the plant occurs.

40 CFR Part 60, Subpart UUU – Standards of Performance for Calciners and Dryers in Mineral Industries.

Discussion: This rule applies to units processing or producing a select list of minerals. The source does not process or produce any of these minerals so Subpart UUU does not apply.

40 CFR Part 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Discussion: This rule applies to stationary diesel engines which commenced construction (ordered) after July 11, 2005 and were manufactured after April 1, 2006. None of the engines (EUs: A01-A04) at the source were manufactured after April 1, 2006, so Subpart IIII does not apply to them.

40 CFR Parts 61 and 63 – National Emission Standards for Hazardous Air Pollutants

Because the source is proposing a reclassification from minor HAP source to major HAP source, a new evaluation of applicable NESHAPs is required. Potentially applicable subparts are included with discussion.

b. Subpart B – Application of MACT

40 CFR Part 63, Subpart B - Requirements for Control Technology Determinations for Major Sources in Accordance With Clean Air Act Sections, Sections 112(g) and 112(j)

Discussion: This subpart applies to major sources of HAP that are new or reconstructed since the applicability date. EPA has not developed a MACT for this source category. The source has demonstrated that they have been not constructed or reconstructed a major source of HAP since EPA granted Air Quality delegation of the Title V program December 13, 1996. The source only installed emission controls. The source claims that methods of operation have not changed since that date, other than "recent operational improvements" made prior to the 2012 source testing, which appear to have altered the emissions profile from the CO control device. The effective date of Section 112(g)(2)(B) for Clark County is June 29, 1998, and the source has not constructed or reconstructed a major source of HAP in and of itself. Therefore, the source is not required to develop a source-specific MACT at this time.

40 CFR Part 63, Subpart F - National Emission Standards for Hazardous Air Pollutants from Synthetic Organic Chemical Manufacturing Industry (SOCMI)
Discussion: This rules applies to processes certain organic chemicals. The source is classified as an inorganic chemical manufacturer so Subpart F does not apply.

40 CFR Part 63, Subpart N - National Emission Standards for Hazardous Air Pollutants from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks
Discussion: This rule applies to chrome plating and anodizing operations. The source does not use chromium compounds in plating or anodizing so Subpart N does not apply. They no longer use Chromium Compounds in the ABM process.

40 CFR Part 63, Subpart Q - National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers
Discussion: This rule applies to cooling towers using chromium-based chemicals for water treatments. The source does not use any chromium-based water treatments in the cooling towers, so Subpart Q does not apply.

40 CFR Part 63, Subpart GGG - National Emission Standards for Hazardous Air Pollutants for Pharmaceuticals Production
Discussion: This rule applies to pharmaceutical product production at a major source of HAPs. The source does not fit the NAICS or SIC codes associated with pharmaceutical products production, nor does The source manufacture a final dosage product, nor is the BCl_3 product sold in a quantity to make it a precursor product to the pharmaceutical industry, so Subpart GGG does not apply.

40 CFR Part 63, Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing
Discussion: The source is classified as an inorganic chemical manufacturer so Subpart FFFF does not apply.

40 CFR Part 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engine (RICE)
Discussion: This rule applies to existing stationary RICE constructed before June 12, 2006 at sources of HAP. The source has four existing emergency engines that fall into this classification, so Subpart ZZZZ applies. Previously, the area source requirements applied, now the major source requirements in Subpart ZZZZ will apply to these emergency engines.

40 CFR Part 63, Subpart BBBBB - National Emission Standards for Hazardous Air Pollutants for Semiconductor Manufacturing
Discussion: This rule applies to the owner/operator of a semiconductor manufacturing process at a major source of HAPs which manufactures p-type and n-type semiconductors from a wafer substrate. The source only produces BCl_3 for sale, so Subpart BBBBB does not apply.

40 CFR Part 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters
Discussion: This rule applies to boilers or process heaters at major sources of HAP. Under 40 CFR 63.7485, both A05 and A07 qualify as an existing boiler, in excess of 10MMBtu/hr, with oxygen trim. The source's boilers do not qualify for any of the exemptions in 40 CFR 63.7491, so Subpart

DDDDD applies. The source has provided Air Quality with a MACT notification form. The source will comply with Table 3, items 1 and 4, referred to by 40 CFR 63.7540 related to emission limits, work practices and an energy assessment. The boilers fall under the gas 1 subcategory because they regularly burn natural gas and EU A05 can also burn diesel in time of curtailment. Because the boilers have a continuous oxygen trim system, this rule requires a tune-up every 5 years under 40 CFR 63.7540(a)(12). The requirements for a tune-up are specified in 40 CFR 63.7540 (a)(10)(i-vi). Air quality requires semiannual burner efficiency tests under the AQ "Guidelines for Source Testing" for boilers greater than 10 MMBtu/hr. A tune-up can be substituted for a semiannual burner efficiency test.

According to the AQR Section 12 (10/7/04) that was in place when the last ATC/OP was issued, the source could use an alternate fuel (diesel) in EU A05 if natural gas was curtailed. The current version of the AQR Section 12.X does not contain a provision for this. However, 40 CFR 63.7545(f) does contain a provision for the use of alternate fuel during natural gas curtailment provided a notification is submitted under 40 CFR 63.7545(f)(1-5). The source must submit an annual compliance report as described in 40 CFR 63.7550(b) and (c) using the electronic CEDRI or mailed to the appropriate address if CDERI is not available. The source shall keep records as required by 40 CFR 63.7555(a)(1, 2, 6, 7, 9-13) and 40 CFR 63.7555(h). Records will be kept for at least 5 years under 40 CFR 63.7560 and AQR. The source shall also comply with 40 CFR Part 63, Subpart A under 40 CFR 63.7565.

40 CFR Part 63, Subpart NNNNN - National Emission Standards for Hazardous Air Pollutants: Hydrochloric Acid Production
Discussion: This rule applies to HCl production facilities producing HCl at a concentration over 30 weight percent at a major source of HAP. The source produces BCl_3 with less than 0.002 weight percent HCl, so Subpart NNNNN does not apply to the source.

40 CFR Part 63, Subpart CCCCCC – National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities
Discussion: The source is now a major source of HAP, so this rule no longer applies. Air Quality will keep all the conditions and requirements to be consistent with other sources having a gasoline dispensing facility, and because Phase I and II controls are present and control credit is being taken. The citation will be changed to AQR 12.4.3.1(a)(7, 9 and 10).

40 CFR Part 63, Subpart JJJJJJ -National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources
Discussion: The source is a major source of HAP, so Subpart JJJJJJ does not apply.

40 CFR Part 63, Subpart VVVVVV - National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources
Discussion: In the June 1, 2010 permitting action TSD (Mod 13), the applicability of Subpart VVVVVV was discussed. At the time, the source was thought to be minor for HAPs. The source consulted with EPA and obtained a waiver from compliance for one year so they could construct all the lids and covers as required. The source reports it is major for HAP (Mn), so Subpart VVVVVV does not apply.

40 CFR Part 63, Subpart BBBBBBB - National Emission Standards for Hazardous Air Pollutants for Area Sources: Chemical Preparations Industry
Discussion: This rule applies to area sources of HAP and the source is a major source of HAP, so Subpart BBBBBBB does not apply.

40 CFR Part 64 – COMPLIANCE ASSURANCE MONITORING

40 CFR 64.2 – Applicability

Discussion: CAM requirements were addressed during the initial Part 70 OP.

V. COMPLIANCE

A. COMPLIANCE HISTORY

Table V-A-1: Compliance History Since Last Renewal/Initial Part 70 OP

Compliance Issue	Date/Status
NOV 9573- administrative infractions, exceeding boiler emissions, exceeding boiler operating hours, failure to maintain CO control device, failure to operate a crusher control device within specified pressure drop range, failure to operate a scrubber within specified, failure to use an hour meter to monitor hours of operation of a boiler.	Deficiency Corrected and Adjudicated 9/16/2021
NOV 9621- exceeding mass emission limits for PM and $PM_{2.5}$ from the hearth baghouse stack.	Deficiency Corrected and Adjudicated 11/18/2021
NOV 9885- exceeding mass emission limits for CO during performance test, failing to meet overall CO control efficiency during performance test on the CO control device.	Deficiency Corrected and Adjudicated 9/21/2023

B. COMPLIANCE CERTIFICATION

1. The schedule for the submittal of reports to the Air Quality shall be as follows:

Table V-B-1: Reporting Schedule

Required Report	Applicable Period	Due Date
Semiannual report for 1st six-month period	January, February, March, April, May, June	July 30 each year[1]
Semiannual report for 2nd six-month period; any additional annual records required	July, August, September, October, November, December	January 30 each year[1]
Annual Compliance Certification	Calendar year	January 30 each year[1]
Annual Emissions Inventory Report	Calendar year	March 31 each year[1]
Annual Emissions Statement[2]	Calendar year	March 31 each year[1]
Notification of Malfunctions, Startup, Shutdowns, or Deviations with Excess Emission	As required	Within 24 hours of the permittee learns of the event
Excess Emissions that Pose a Potential Imminent and Substantial Danger	As required	Within 12 hours of when permittee learns of event

Required Report	Applicable Period	Due Date
Report of Malfunctions, Startup, Shutdowns, or Deviations with Excess Emission	As required	Within 72 hours of the notification[1]
Deviation Report without Excess Emissions	As required	Along with semiannual reports[1]
Performance Testing Protocol	As required	No less than 45 days, but no more than 90 days, before the anticipated test date[1]
Performance Testing Report	As required	Within 60 days of end of test[1]

[1]If the due date falls on a federal or Nevada holiday, or on any day the office is not normally open for business, the submittal is due on the next regularly scheduled business day.
[2] Required only for stationary sources that emit 25 tons or more of nitrogen oxide (NO_X) and/or emit 25 tons or more of volatile organic compounds (VOC) during a calendar year.

2. A statement of methods used for determining compliance, including a description of monitoring, recordkeeping, and reporting requirements and test methods.

C. SUMMARY OF MONITORING FOR COMPLIANCE

Table V-C-1: CAM Summary from the Permittee and DAQ Comments

EU	Description	CAM Applicability	Comments	DAQ Comment
1C–7C	Crusher Baghouse (Unit 6)	Subject to CAM Rule	Uncontrolled PM/HAP PTE is above the major source threshold.	OK
1F–11F	Finishing Baghouse (Unit 6)	Subject to CAM Rule	Uncontrolled PM/HAP PTE is above the major source threshold.	OK
1M–8M	Mill Feed Baghouse (Unit 6)	Subject to CAM Rule	Uncontrolled PM/HAP PTE is above the major source threshold.	OK
ABM04	Calciner Baghouse (ABM)	Subject to CAM Rule	Uncontrolled PM/HAP PTE is above the major source threshold.	OK
F006	Boron Trichloride Process (BCl_3 Scrubber)	Subject to CAM Rule	Uncontrolled PM & HCl PTE is above the major source threshold.	OK
MN02	Hearth Baghouse	Subject to CAM Rule	Uncontrolled PM/HAP PTE is above the major source threshold.	OK after permittee submitted supplemental information.
MN03	Hearth CO Reactor	Not Subject to CAM Rule	Uncontrolled CO PTE is less than major source threshold.	Applicant assumes no PM/HAP control provided by reactor.

EU	Description	CAM Applicability	Comments	DAQ Comment
1D	Rotary Drum Dryer w/ Collector/ Baghouse (Unit 6)	Not Subject to CAM Rule	The dryer collector/baghouse is considered "inherent process equipment" because its primary design purpose is to collect product and the system would not be economically practical to operate without its product-collecting ability. Additionally, this unit would be necessary for operations even if there weren't any emission regulations (62 FR 54913).	Baghouse was not considered "inherent" in any previous application.
ABM01	Jet Mill Collector (ABM)	Not Subject to CAM Rule	Internal filters on ABM01, ABM02 & ABM03 are considered "inherent process equipment" since the primary design purpose of these units is to collect product and the system would not be economically practical to operate without their product-collecting ability. These units would contain filters even if there weren't any emission regulations (62 FR 54913).	Baghouse was not considered "inherent" in any previous application.
ABM03	DPM Collector (ABM)	Not Subject to CAM Rule		
ABM02	Classifier Collector (ABM)	Not Subject to CAM Rule		
E004	Boron Furnace Baghouse	Not Subject to CAM Rule	Uncontrolled PM PTE is less than major source threshold, based on approved emissions tests.	Source PTE for PM is not major.
E003	Boron Grinding Mill Baghouse	Not Subject to CAM Rule	Uncontrolled PM PTE is less than major source threshold, based on approved emission tests.	Source PTE for PM is not major.
MN05	H_2S Caustic Scrubber (Leach Plant)	Not Subject to CAM Rule	Uncontrolled H_2S PTE is less than major source threshold, based on the following: outlet controlled PTE, 8,760 hr/yr of operations, and 99% scrubber control efficiency.	Source PTE for H_2S is not major.
	H_2S Lime Scrubber (Leach Plant)	Not Subject to CAM Rule		
A05	Boiler #1 (Cleaver Brooks)	Not Subject to CAM Rule	Uncontrolled NO_x PTE is less than the major source threshold, based on AP-42 NO_x emission factor for natural gas fired boilers rated at <100 MMBtu/hr.	Source PTE for NO_x is not major. AP-42 is not used in calculating NO_x.
A07	Boiler #3 (Murray Trane)	Not Subject to CAM Rule	Uncontrolled NO_x PTE is less than major source threshold, based on AP-42 NO_x emission factor for natural gas fired boilers rated at <100 MMBtu/hr.	
MN04	EMD Cells	Not Subject to CAM Rule	The paraffin wax coating on the EMD cells is considered "inherent process equipment." the primary purpose of this coating is to retain heat within the EMD cell. The paraffin wax coating would be employed regardless of emission regulations.	Source PTE for H_2SO_4 is not major.

The permittee performed a CAM plan analysis on the emission units subject to CAM and identified indicators and frequencies, shown in Table V-C-2.

Table V-C-2: CAM Applicable Emission Units and Findings

EU	Description	Indicator #1	Indicator #2	Indicator #3	Indicator #4	DAQ Comment
1C – 7C	Crusher Baghouse (Unit 6)	Daily visible emission checks		Daily baghouse differential pressure		OK
1F – 11F	Finishing Baghouse (Unit 6)	Daily visible emission checks		Daily baghouse differential pressure		OK
1M - 8M	Mill Feed Baghouse (Unit 6)	Daily visible emission checks		Daily baghouse differential pressure		OK
ABM04	Calciner Baghouse (ABM)	Daily visible emission checks		Daily baghouse differential pressure		OK
F006	Boron Trichloride Process (BCl_3 Scrubber)	Indicator #1: Daily visible emission checks	Indicator #2: Continuous readout scrubber fan demister differential pressure	Indicator #3: Continuous readout caustic circulation rate	Indicator #4: Daily caustic circulation solution strength.	OK
MN02	Hearth Baghouse	Daily visible emission checks		Daily baghouse differential pressure		OK

VI. EMISSION REDUCTION CREDITS (OFFSETS)

None.

VII. MODELING

A. INCREMENT ANALYSIS

DAQ modeled the source using AERMOD to track the increment consumption. Stack data submitted by the applicant were supplemented with information available for similar emission units. Five years (2011 to 2015) of meteorological data from the McCarran Station were used in the model. U.S. Geological Survey National Elevation Dataset terrain data were used to calculate elevations. Table VII-A-1 shows the location of the maximum impact and the potential PSD increment consumed by the source at that location. The impacts are below the PSD increment limits.

Table VII-A-1: PSD Increment Consumption

Pollutant	Averaging Period	Source's PSD Increment Consumption (µg/m³)	Location of Maximum Impact	
			UTM X (m)	UTM Y (m)
SO_2	3-hour	3.50[1]	679947	3990831
SO_2	24-hour	1.76[1]	679947	3990831
SO_2	Annual	0.47	680348	3990510
NO_X	Annual	15.05	680348	3990510

[1] Highest Second High Concentration.

Table VII-A-1 shows the location of the maximum impact and the potential PSD increment consumed by the source at that location. The impacts are below the PSD increment limits.

B. PRECONSTRUCTION MODELING

Preconstruction modeling is not required for this action.

VIII. ENVIRONMENTAL JUSTICE

An EJSCREEN analysis was performed for this source using a 3-mile buffer. No undue impacts on underserved/disadvantaged communities were noted. A full output report is included in the source file, and available upon request. This action adds 0.02 tpy $PM_{10,}$ 0.03 tpy total HAP, and 0.03 tpy single HAP (lead compounds).

IX. PERMIT SHIELD

A permit shield has not been requested by the permittee.

X. STREAMLINING

Table X-1: Streamlining

EU ID	Descrip-tion	Const Date	Applicable NSPS/NESHAP	Emission Limit (gr/dscf)	Opacity Limit	Permit Emission Limit	Permit Opacity Limit	Streamlining Statement
A07	Boiler	Pre 1989	40 CFR Part 63, Subpart DDDDD	Not applicable to natural gas fueled boilers	Not applicable to natural gas fueled boilers	Based on performance test	20%	The permit limit is equal to, or more restrictive than, the regulatory limit through application of AQR 26, and management and administrative practices.
A05	Boiler	Post 1989	40 CFR Part 60, Subpart Dc and 40 CFR Part 63, Subpart DDDDD	Not applicable to natural gas fueled boilers	Not applicable to natural gas fueled boilers	Based on performance test	20%	The permit limit is equal to, or more restrictive than, the regulatory limit through application of AQR 26, and management and administrative practices
A01-A04	Emergency engines	Pre 2006	40 CFR Part 60, Subpart ZZZZ	Not applicable to emergency engines	None	None	20%	The permit opacity limit from AQR 26 is equal to, or more restrictive than, the regulatory limit.

PUBLIC PARTICIPATION

This action is an administrative revision and under AQR 12.5.2.17 public participation is not required.

ATTACHMENTS

Tables XII-1 and XII-2 list applicable PTE and allowable PTE, respectively, for each emission unit. For a complete source-wide spreadsheet of the PTE calculations, and EJSCREEN report, see the source file, which is available upon request.

Table XII-1: Facility Applicable PTE

		Annual PTE Emissions (tpy)												
EU#	EU Description	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	Pb Compounds	Mn Compounds	H_2S	Total HAP	HCl	Cl_2	GHG
A01	Diesel Emergency Generator	0.05	0.05	0.71	0.15	2.78E-04	0.06	2.43E-04	4.83E-04	-	2.81E-02	-	-	25.91
A02	Diesel Emergency Generator	0.09	0.09	1.29	0.28	5.02E-04	0.10	4.39E-04	8.72E-04	-	5.07E-02	-	-	46.75
A03	Diesel Emergency Generator	0.09	0.09	1.29	0.28	5.02E-04	0.10	4.39E-04	8.72E-04	-	5.07E-02	-	-	46.75
A04	Diesel Emergency Generator	0.23	0.23	3.28	0.71	1.28E-03	0.26	1.12E-03	2.22E-03	-	1.29E-01	-	-	119.13
A05	Boiler - Natural Gas	3.09	3.09	12.69	1.69	0.25	2.28	2.07E-04	1.58E-04	-	7.83E-01	-	-	49,441
A07	Boiler - Natural Gas	2.02	2.02	32.17	1.58	0.19	1.70	1.55E-04	1.17E-04	-	5.84E-01	-	-	36,851
B01	Disturbed Surfaces	1.82	0.27	-	-	-	-	1.55E-02	-	-	1.55E-02	-	-	-
G01	Paved Roads	0.44	0.07	-	-	-	-	7.55E-05	-	-	7.55E-05	-	-	-
E003	Boron Process - 10 hp Baghouse	0.15	0.02	-	-	-	-	-	-	-	-	-	-	-
E004	Boron Process - 15 hp Baghouse	0.35	0.05	-	-	-	-	-	-	-	-	-	-	-
F006	Boron Trichloride Process	1.64	0.99	-	-	-	-	-	-	-	0.40	0.39	0.01	-
MN01A-MN01D, 9555, 9556	MnO_2 Process: Fugitives	41.07	6.22	-	-	-	-	1.17E-01	37.79	-	39.13	-	-	-
1D	MnO_2 Process: Unit 6 - Dryer Baghouse	0.44	0.44	1.59	1.34	0.01	0.09	3.73E-03	0.44	-	0.47	-	-	1,909
1C, 2C, 4C, 5C, 6C, & 7C	MnO_2 Process: Unit 6 - Crusher Baghouse	38.07	5.77	-	-	-	-	3.24E-01	38.07	-	38.40	-	-	-
1M-8M	MnO_2 Process: Unit 6 - Mill Feed Baghouse	44.54	6.74	-	-	-	-	3.79E-01	44.54	-	44.92	-	-	-
1F, 2F, 3F, 4F, 5F, 6F, 8F, 9F, 10F, and 11F	MnO_2 Process: Unit 6 - Finishing Baghouse	165.83	25.11	-	-	-	-	1.41E+00	165.83	-	167.24	-	-	-
M02	MnO_2 Process: Unit 6 - Plate Crushing	0.15	0.02	-	-	-	-	1.28E-03	0.15	-	0.15	-	-	-
MN02	MnO_2 Process: Hearth & Polishing Bin Baghouse	4.76	4.07	-	11.61	-	-	2.38E-03	4.76	-	4.77	-	-	16,246
MN03	MnO_2 Process: CO Reactor	4.53	0.79	4.80	3.09	0.03	0.26	2.27E-03	4.53	-	4.63	-	-	-
MN04	MnO2 Process: EMD Cells	1.24	1.24	-	-	-	-	1.05E-02	0.07	-	0.08	-	-	-
MN05	Sulfiding	-	-	-	-	-	-	-	-	0.02	-	-	-	-
MN06A, MN06B	Stockpiles	0.33	0.05	-	-	-	-	2.83E-03	0.28	-	0.28	-	-	-
CT03	Cooling Tower #3	0.13	0.08	-	-	-	-	-	-	-	-	-	-	-
CT04	Cooling Tower #4	0.03	0.02	-	-	-	-	-	-	-	-	-	-	-
T01	Gasoline Tank	-	-	-	-	-	0.31	-	-	-	0.13	-	-	-
ABM01-ABM04	ABM Processes	0.05	0.01	-	-	-	-	4.57E-04	5.37E-02	-	0.05	-	-	-
IA01	Boron Trichloride Crude Reboiler, < 0.1MMBtu/hr	8.39E-04	8.39E-04	1.10E-02	9.27E-03	6.62E-05	6.07E-04	5.52E-08	4.19E-08	-	2.08E-04	-	-	13.31
IA02	Boron Trichloride Refined Reboiler, < 0.1MMBtu/hr	8.39E-04	8.39E-04	1.10E-02	9.27E-03	6.62E-05	6.07E-04	5.52E-08	4.19E-08	-	2.08E-04	-	-	13.31
IA03	Manganese Dioxide Process: Lab Vents	0.01	0.01	-	-	-	-	8.50E-05	0.01	-	0.01	-	-	-
	Total Uncontrolled Potential To Emit Emissions:	**311.17**	**57.54**	**57.84**	**20.73**	**0.48**	**5.17**	**2.27**	**296.53**	**0.02**	**302.29**	**0.39**	**0.01**	**104,712**

Table XII-2: Facility PTE

		Annual PTE Emissions (tpy)												
EU#	EU Description	PM_{10}	$PM_{2.5}$	NO_x	CO	SO_2	VOC	Pb Compounds	Mn Compounds	H_2S	Total HAP	HCl	Cl_2	GHG
A01	Diesel Emergency Generator	0.05	0.05	0.71	0.15	2.78E-04	0.06	2.43E-04	4.83E-04	-	2.81E-02	-	-	25.91
A02	Diesel Emergency Generator	0.09	0.09	1.29	0.28	5.02E-04	0.10	4.39E-04	8.72E-04	-	5.07E-02	-	-	46.75
A03	Diesel Emergency Generator	0.09	0.09	1.29	0.28	5.02E-04	0.10	4.39E-04	8.72E-04	-	5.07E-02	-	-	46.75
A04	Diesel Emergency Generator	0.23	0.23	3.28	0.71	1.28E-03	0.26	1.12E-03	2.22E-03	-	1.29E-01	-	-	119.13
A05	Boiler - Natural Gas	3.09	3.09	12.69	1.69	0.25	2.28	2.07E-04	1.58E-04	-	0.78	-	-	49,441
A07	Boiler - Natural Gas	0.92	0.92	14.69	0.72	0.09	0.78	7.06E-05	5.36E-05	-	0.27	-	-	16,827
B01	Disturbed Surfaces	1.82	0.27	-	-	-	-	1.55E-02	-	-	1.55E-02	-	-	-
G01	Paved Roads	0.44	0.07	-	-	-	-	7.55E-05	-	-	7.55E-05	-	-	-
E003	Boron Process - 10 hp Baghouse	0.15	0.02	-	-	-	-	-	-	-	-	-	-	-
E004	Boron Process - 15 hp Baghouse	0.35	0.05	-	-	-	-	-	-	-	-	-	-	-
F006	Boron Trichloride Process	1.64	0.98	-	-	-	-	-	-	-	0.40	0.39	0.01	-
MN01A-MN01D, 9555, 9556	MnO_2 Process: Fugitives	10.64	1.61	-	-	-	-	5.32E-03	9.79	-	9.84	-	-	-
1D	MnO_2 Process: Unit 6 - Dryer Baghouse	0.44	0.44	1.59	1.34	0.01	0.09	3.73E-03	0.44	-	0.47	-	-	1,909
1C, 2C, 4C, 5C, 6C, & 7C	MnO_2 Process: Unit 6 - Crusher Baghouse	1.32	0.20	-	-	-	-	1.12E-02	1.32	-	1.33	-	-	-
1M-8M	MnO_2 Process: Unit 6 - Mill Feed Baghouse	1.08	0.16	-	-	-	-	9.16E-03	1.08	-	1.09	-	-	-
1F, 2F, 3F, 4F, 5F, 6F, 8F, 9F, 10F, and 11F	MnO_2 Process: Unit 6 - Finishing Baghouse	0.80	0.12	-	-	-	-	6.83E-03	0.80	-	0.81	-	-	-
M02	MnO_2 Process: Unit 6 - Plate Crushing	0.04	0.01	-	-	-	-	3.20E-04	0.04	-	0.04	-	-	-
MN02	MnO_2 Process: Hearth & Polishing Bin Baghouse	4.76	4.07	-	11.61	-	-	2.38E-03	4.76	-	4.77	-	-	5,754.75
MN03	MnO_2 Process: CO Reactor	4.53	0.79	4.80	3.09	0.03	0.26	2.27E-03	4.53	-	4.63	-	-	-
MN04	MnO2 Process: EMD Cells	0.31	0.31	-	-	-	-	2.62E-03	0.02	-	0.02	-	-	-
MN05	Sulfiding	-	-	-	-	-	-	-	-	0.02	-	-	-	-
MN06A, MN06B	Stockpiles	0.31	0.05	-	-	-	-	2.64E-03	0.28	-	0.28	-	-	-
CT03	Cooling Tower #3	0.13	0.08	-	-	-	-	-	-	-	-	-	-	-
CT04	Cooling Tower #4	0.03	0.02	-	-	-	-	-	-	-	-	-	-	-
T01	Gasoline Tank	-	-	-	-	-	0.02	-	-	-	9.50E-04	-	-	-
ABM01-ABM04	ABM Processes	0.05	0.01	-	-	-	-	4.57E-04	0.05	-	0.05	-	-	-
	Total Allowable Potential To Emit Emissions:	**33.32**	**13.73**	**40.34**	**19.86**	**0.38**	**3.96**	**0.06**	**23.11**	**0.02**	**25.05**	**0.39**	**0.01**	**74,170**