



**LANE REGIONAL AIR PROTECTION AGENCY
TITLE V OPERATING PERMIT**

REVIEW REPORT

Johnson Crushers International

86470 Franklin Boulevard
Eugene, Oregon 97405
Website: <https://www.kpijci.com>

Permit No. 204215

Source Information:

SIC	3531 - Construction Machinery and Equipment
NAICS	333120 - Mining Machinery and Equipment Manufacturing

Source Category (LRAPA Title 37, Table 1)	B.69 - Surface coating operations; actual or expected coating use greater than 250 gal/month
Public Notice Category	III

Compliance and Emissions Monitoring Requirements:

Unassigned emissions	NA
Emission credits	NA
Special Conditions	NA
Compliance schedule	NA

Source test [date(s)]	NA
COMS	NA
CEMS	NA
Ambient monitoring	NA

Reporting Requirements:

Annual report (due date)	February 15
Emission fee report (due date)	February 15
SACC (due date)	July 30
Greenhouse Gas report (due date)	NA

Quarterly report (due dates)	NA
Monthly report (due dates)	NA
Excess emissions report	Y
Other reports	NA

Air Programs:

NSPS (list subparts)	NA
NESHAP (list subparts)	A, MMMM
CAM	NA
Regional Haze (RH)	NA
Synthetic Minor (SM)	NA
SM-80	NA
Part 68 Risk Management	NA
Title V	Y
> 20 Megawatts	NA

ACDP (SIP)	Y
Prevention of Significant Deterioration (PSD)	NA
Major HAP Source	Y
Federal Major Source	NA
New Source Review (NSR)	NA
Acid Rain	NA
Clean Air Mercury Rule (CAMR)	NA
TACT	NA

TABLE OF CONTENTS

LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS REVIEW REPORT.....	4
INTRODUCTION.....	5
PERMITTEE IDENTIFICATION.....	5
FACILITY DESCRIPTION.....	5
GENERAL BACKGROUND INFORMATION.....	6
ALTERNATE OPERATING SCENARIOS.....	6
EMISSIONS UNIT AND POLLUTION CONTROL DEVICE IDENTIFICATION.....	6
AGGREGATE INSIGNIFICANT EMISSIONS.....	8
CATEGORICALLY INSIGNIFICANT ACTIVITIES.....	9
EMISSION LIMITS AND STANDARDS, TESTING, MONITORING, AND RECORDKEEPING.....	9
EMISSION LIMITS FOR INSIGNIFICANT ACTIVITIES.....	10
PLANT SITE EMISSION LIMITS.....	11
HAZARDOUS AIR POLLUTANTS/TOXIC AIR CONTAMINANTS.....	11
FEDERAL REQUIREMENTS.....	12
STRATOSPHERIC OZONE DEPLETING REQUIREMENTS.....	14
GENERAL TESTING REQUIREMENTS.....	15
RECORDKEEPING REQUIREMENTS.....	15
REPORTING REQUIREMENTS.....	15
COMPLIANCE HISTORY.....	15
TITLE V PERMIT CHANGELOG.....	16
PUBLIC NOTICE.....	17
EPA REVIEW.....	17
EMISSION DETAIL SHEETS.....	18

LIST OF ABBREVIATIONS THAT MAY BE USED IN THIS REVIEW REPORT

ACDP	Air Contaminant Discharge Permit	NSPS	New Source Performance Standards
AQMA	Air Quality Management Area	NSR	New Source Review
Act	Federal Clean Air Act	O ₂	Oxygen
ASTM	American Society of Testing and Materials	OAR	Oregon Administrative Rules
BACT	Best Available Control Technology	ODEQ	Oregon Department of Environmental Quality
Btu	British thermal unit	OPR	Operation
CAM	Compliance Assurance Monitoring	ORS	Oregon Revised Statutes
CAO	Cleaner Air Oregon	O&M	Operation and maintenance
CEMS	Continuous Emissions Monitoring System	Pb	Lead
CFR	Code of Federal Regulations	PCD	Pollution Control Device
CI	Compression Ignition	PM	Particulate matter
CMS	Continuous Monitoring System	PM _{2.5}	Particulate matter less than 2.5 microns in size
CO	Carbon Monoxide	PM ₁₀	Particulate matter less than 10 microns in size
CO ₂	Carbon dioxide	ppm	Parts per million
CO _{2e}	Carbon dioxide equivalent	PSD	Prevention of Significant Deterioration
COMS	Continuous Opacity Monitoring System	PSEL	Plant Site Emission Limit
CPDS	Certified Product Data Sheet	psia	pounds per square inch, actual
CPMS	Continuous parameter monitoring system	PTE	Potential to Emit
DEQ	Department of Environmental Quality	RICE	Reciprocating Internal Combustion Engine
dscf	Dry standard cubic feet	SACC	Semi-Annual Compliance Certification
EF	Emission factor	SCEMP	Surrogate Compliance Emissions Monitoring Parameter
EPA	US Environmental Protection Agency	SCF	Standard cubic foot
EU	Emissions Unit	SDS	Safety Data Sheet
FCAA	Federal Clean Air Act	SER	Significant emission rate
ft ²	Square foot	SERP	Source emissions reduction plan
FSA	Fuel sampling and analysis	SI	Spark Ignition
GHG	Greenhouse Gas	SIC	Standard Industrial Code
gr/dscf	Grain per dry standard cubic feet (1 pound = 7000 grains)	SIP	State Implementation Plan
HAP	Hazardous Air Pollutant as defined by LRAPA title 12	SO ₂	Sulfur dioxide
HCFC	Halogenated Chloro-Fluoro-Carbons	ST	Source test
Hr	Hour	TACT	Typically Achievable Control Technology
ID	Identification number or label	TBACT	Toxics Best Available Control Technology
I&M	Inspection and maintenance	TPY	Tons per year
lb	Pound	VE	Visible emissions
LRAPA	Lane Regional Air Protection Agency	VMT	Vehicle miles traveled
MACT	Maximum Achievable Control Technology	VOC	Volatile organic compounds
MM	Million	VHAP	Volatile hazardous air pollutant
MMBtu	Million British thermal units	Year	A period consisting of any 12-consecutive calendar month
NA	Not applicable		
NESHAP	National Emission Standards for Hazardous Air Pollutants		
NO _x	Nitrogen oxides		

INTRODUCTION

1. This is an existing facility applying for a renewal of its existing Title V federal operating permit. Upon issuance, the renewed Title V federal operating permit will be valid for 5 years.
2. In accordance with OAR 340-218-0120(1)(f), this review report is intended to provide the legal and factual basis for the draft permit conditions. In most cases, the legal basis for a permit condition is included in the permit by citing the applicable regulation. In addition, the factual basis for the requirement may be the same as the legal basis. However, when the regulation is not specific and only provides general requirements, this review report is used to provide a more thorough explanation of the factual basis for the draft permit conditions.
3. The current permit was issued on November 15, 2014 and was originally scheduled to expire on November 15, 2019. The following changes have been made at the facility during the last permit term:

Date	Permit revision or notification	Brief explanation
8/31/2018	Administrative Amendment – Addendum No. 1	Change facility contact person.
12/5/2018	Administrative Amendment – Addendum No. 2	Change facility contact person.
4/20/2020	Administrative Amendment – Addendum No. 3	Change responsible official title from “President” to “General Manager”.

PERMITTEE IDENTIFICATION

4. Johnson Crushers International (“JCI” or “facility”) operates a heavy equipment manufacturing facility at 86470 Franklin Boulevard, in Eugene Oregon. The operation comprises the manufacture of truck-mounted rock crushers and associated rock screening equipment. JCI operates three (3) spray booths for painting manufactured equipment and four (4) baghouses to control emissions from metal burning, cutting, machining, and welding.

FACILITY DESCRIPTION

5. JCI manufactures mobile aggregate (rock) crushing and handling equipment. Raw metal and finished parts and components used in the manufacturing process at the facility are received by truck. From these components and raw materials, the facility manufactures its products. The manufacturing process consists of seven emission units: Paint Booth Operations (PBO), Metal Fabrication 1 – Bays 1&2 (MF-1), Metal Fabrication 2 – Bays 3&4 (MF-2), Whitney Burn Table (BT-1), Messer Burn Table (BT-2), and Wet Burn Table (BT-3). Paved road dust and the three (3) natural gas heaters for the booths is accounted for under Aggregate Insignificant Activities (AI).

Metal is cut and formed in Bays 1, 2, 3, and 4. The Wet Burn Table is located in Bay 2, the Messer Burn Table is located in Bay 3, and the Whitney Burn/Punch Burn Table is located in Bay 4. The Messer Burn Table, the Whitney Burn Table, and the Wet Burn Table are generators of NO_x and particulate matter (PM). The Messer and the Whitney Burn Tables are both dry burn tables and each have a baghouse to control and collect PM emissions. The Wet Burn Table does not have a baghouse to control PM emissions, but NO_x and PM emissions are significantly lower for a wet burn table than for a dry burn table. JCI employs two general ventilation systems adding fresh air and removing shop air. Bays 1 and 2 comprise one system where shop air is collected into common ducts and vented to the atmosphere with no pollution controls. Bays 3 and 4 comprise the other system where shop air is collected into common ducts and then

routed into the baghouses to the north and south (BH-N, and BH-S). Bays 1-4 are all in the same large building without physical dividers between bays, and therefore all share the same shop air.

Welding is performed throughout the bays amongst the other metal fabrication processes. In some areas there are boomed exhaust systems to collect the welding emissions, in the other areas there is no localized collection of welding emissions.

Painting is performed in Paint Booths 290, 390, and 491. Painting includes cleaning, primer, base coat and final coat, although not all steps are performed on all components. Solvent based coatings are used. This process is subject to the Metal Parts Coating NESHAP (40 CFR 63 Subpart M MMMM).

GENERAL BACKGROUND INFORMATION

6. JCI is located outside the Eugene Springfield Air Quality Management Area and in an area that has been designated as attainment for PM₁₀, PM_{2.5}, ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide and lead.
7. The facility has been in operation at the current location since 1996, and was discovered as an unpermitted sourced in 2007 as a result of 2006 Toxic Release Inventory (TRI) information. Because of incomplete records, the emissions from the facility for each year during 1999-2002 were presumed to be above the 10 ton per year major source threshold for a single HAP. The emissions for each year during 2003-2006 were documented to be above the 10 ton per year major source threshold for a single HAP. Xylene was the single HAP compound that exceeded 10 tons per year for the aforementioned periods. In 2007, the facility switched to predominantly low-HAP containing solvents and coatings and has reduced emissions below the major source thresholds, but they remain subject to the Subpart M MMMM HAP requirements
8. As a major source of HAPs, the facility is subject to the requirements of the Miscellaneous Metal Parts National Emission Standards for Hazardous Air Pollutants (40 CFR 63 Subpart M MMMM). JCI did not have federally enforceable HAP permit limits in place at the time of the compliance date for existing sources under the Misc. Metal Parts NESHAP and is, therefore, subject to the rule. The compliance date for existing sources was January 2, 2007.
9. Because JCI is subject to the Misc. Metal Parts NESHAP, the facility was required to obtain a Construction ACDP and then apply for a Title V Operating Permit within 12-months of startup as required by LRAPA and ODEQ regulations. [LRAPA 37-0020 and OAR 340-218-0020(1)(c)]
10. LRAPA issued JCI their first Construction ACDP on November 9, 2007 in preparation for the Title V permit they were required to obtain. LRAPA issued the Title V permit on April 7, 2009. In 2021, as part of the Title V permit renewal, LRAPA discovered that the burn tables at JCI had been overlooked as sources of NO_x and they were potentially over the de minimis levels. The facility did not have a PSEL set for NO_x, so LRAPA determined that JCI would require another Construction ACDP be issued to add the NO_x PSEL to the Title V permit. The Construction ACDP to add the NO_x PSEL was issued on May 19, 2022.
11. At this time, 40 CFR 63 Subpart M MMMM is applicable to JCI.
12. The facility is located within 100 kilometers of two (2) Class-I air quality protection areas: Diamond Peak Wilderness, and Three Sisters Wilderness.

ALTERNATE OPERATING SCENARIOS

13. The facility has a single operating scenario.

EMISSIONS UNIT AND POLLUTION CONTROL DEVICE IDENTIFICATION

14. The emission unit designations were changed in this permit renewal. Previously the burn tables and the metal fabrication process performed in all four bays (except welding) were under the EU *Particulate Collection Systems – Exh*, and the welding performed in all four bays was under the EU *Welding Process – WD*. The Exh and WD emission units have been changed to *Metal Fabrication 1 (MF-1)*, *Metal Fabrication 2 (MF-2)*, *Whitney Burn Table (BT-1)*, *Messer Burn Table (BT-2)*, and *Wet Burn Table (BT-3)*. A further explanation of these emission units can be found below.
15. The emissions units, devices, activities, and pollution control devices at this facility are the following:

Description	EU ID	Pollution Control Device Description	PCD ID
Paint Booth Operations Paint Booth 290 Paint Booth 390 Paint Booth 491	PBO	Paint Booth Filters	PBF
Metal Fabrication 1 (Bays 1 & 2)	MF-1	None	NA
Metal Fabrication 2 (Bays 3 & 4)	MF-2	Two (2) Baghouses – N & S	BH-N, BH-S
Burn Table 1 - Whitney	BT-1	Baghouse	BH-1
Burn Table 2 - Messer	BT-2	Baghouse	BH-2
Burn Table 3 - Wet	BT-3	NA	NA
Aggregate Insignificant Activities: <ul style="list-style-type: none"> • Paved Road Dust • Booths 290, 390, and 491 • Natural Gas Heaters 	AI	None	NA

Paint Booth Operations – PBO: This emission units consists of three (3) paint booths each equipped with a paint booth filter or filters. Manufactured items are delivered to one (1) of three (3) paint booths within the facility. Some items receive a solvent wipe down and then the application of a Low HAP primer and final coat painting. Particulates are collected through intake filters. Once dry, components are delivered to selected work stations for final assembly. When dry, the finished product is moved to finish storage for testing and shipping. Paint booth 290 is unique in that it employs a down draft principle hence, it is open at the top of the booth. All other paint booths are totally enclosed.

There are rooms attached to the paint booths where the paint is mixed and pumped to the paint guns. These rooms are called hot rooms because they are heated when needed for paint mixing and flow.

Previously there were five paint booths, but booth 190 and booth 490 were removed.

Metal Fabrication 1 – Bays 1 & 2 (MF-1): Similar metal fabrication processes occur through all four bays. There are partial divisions between each bay, but no true walls, so there is some mixing of emissions within all four bays.

Metal is cut, punched, machined, burned, and welded as part of the fabrication process. The majority of welding is done on steel plate, bar stock, or structural steel. Occasionally, welding is conducted on aluminum when equipment repairs need to be made. JCI no longer welds Bronze/Brass alloys. A process known as scarfing is also performed. Scarfing prepares cast metals for additional weld fill.

There are general ventilation systems that run through each bay. Some areas have boomed intake points to remove localized emissions, the rest of the intake points draw from the shop air. The ventilation systems

from Bays 1 & 2 are exhausted to the outside air without controls. Because of the similar operations, it is assumed that all four bays produce the same amount of PM emissions. JCI calculates the PM emissions from Bays 1 & 2 by weighing the emissions collected from the baghouses for Bays 3 & 4, and assuming the same amount of emissions (plus 2% to account for the amount that escaped through the baghouses) were vented from Bays 1 & 2.

The Wet Burn Table is in Bay 2, and the emissions from this burn table are included with the rest of the fabrication processes in Bays 1 & 2.

Also of note, JCI calculates welding emissions through emission factors. Some of those emissions are captured and weighed as part of the shop emissions, so there is some double counting of PM emissions. Data Sheets for all welding materials being used at the time of permit issuance have been provided.

Metal Fabrication 2 – Bays 3 & 4 (MF-2): General process is described above. Rather than use emission factors, the emissions collected from the baghouses (BH-N and BH-S) are weighed and tracked for the year. Since the baghouses are designed to be 98% effective at removing particulate matter, it is assumed that 2% escaped to the atmosphere. The 2% that escaped are the reported emissions for Bays 3 & 4.

All the particulate matter emissions from the baghouses are assumed to be less than 10 microns in diameter (PM₁₀). Particulates captured by the filters are collected at the base of the baghouses in 55 gallon drums for disposal.

Burn Tables (BT-1, BT-2, & BT-3): There are three burn tables at the facility, the Whitney Burn Table (BT-1), the Messer Burn Table (BT-2), and the Wet Burn Table (BT-3). The Whitney Burn Table and the Messer Burn Table each have a baghouse to control their PM emissions. The Whitney and the Messer are both dry burn tables and are sources of NO_x and PM emissions. PM emissions from BT-1 and BT-2 are calculated based on the mass of emissions collected in the two burn table baghouses. The PM emissions are calculated in the same way as those from MF-2 (2% passes through baghouse to atmosphere). The NO_x EFs were determined based on the worst case scenario of cutting only very thick (35+ mm) stainless steel. For the Whitney and Messer Burn Tables, the EF is 1.35 (lb NO_x / hr operated). For the Wet Burn Table, the EF is 0.36 (lb NO_x / hr operated).

The wet burn table is not a significant source of PM, and the emissions are not routed to a baghouse, so the PM emissions from the wet burn table are accounted for as part of Metal Fabrication 1 (MF-1).

AGGREGATE INSIGNIFICANT EMISSIONS

Aggregate Insignificant – AI: The PM emissions generated by commercial truck road dust on paved surfaces and roads at the facility are designated Aggregate Insignificant. The road dust emissions are estimated to be 0.1 ton/year of PM₁₀, based on AP-42 emission factors using 10 inbound and outbound trucks per day.

JCI has three (3) booths with natural gas heaters. None of the natural gas heaters are categorically exempt because they are all rated at greater than 2.0 MMBtu/hr. Booth 290 has a heater rated at 3.88 MMBtu/hr, Booth 390 and 491 each have heaters rated at 4.2 MMBtu/hr. Emission factors from EPA AP-42, Chapter 1.4: Natural Gas Combustion were used to calculate the emissions the heaters emit. For each pollutant, (PM, PM₁₀, PM_{2.5}, CO, NO_x, SO₂, and VOC), the emissions were less than 1.0 ton per year therefore, the heaters emit less than the de minimis levels and are considered aggregate insignificant (AI) per LRAPA title 12.

CATEGORICALLY INSIGNIFICANT ACTIVITIES

16. The facility has the following categorically insignificant activities:

- Evaporative and tail pipe emissions from on-site motor vehicle operation

- Distillate oil, kerosene, and gasoline fuel burning equipment rated at less than or equal to 0.4 million Btu/hr
- Natural gas and propane burning equipment rated at less than or equal to 2.0 million Btu/hr
- Office activities
- Janitorial activities
- Groundskeeping activities including, but not limited to building painting and road and parking lot maintenance
- Maintenance and repair shop
- Automotive repair shops or storage garages
- Air cooling or ventilating equipment not designed to remove air contaminants generated by or released from associated equipment
- Refrigeration systems with less than 50 pounds of charge of ozone depleting substances regulated under Title VI, including pressure tanks used in refrigeration systems but excluding any combustion equipment associated with such systems.
- Temporary construction activities
- Warehouse activities
- Accidental fires
- Air vents from air compressors
- Electrical charging station
- Fire Brigade Training
- Fire suppression
- Routine maintenance, repair, and replacement such as anticipated activities most often associated with and performed during regularly scheduled equipment outages to maintain a plant and its equipment in good operating condition, including but not limited to steam cleaning, abrasive use, and woodworking
- Electric motors
- Storage tanks, reservoirs, transfer and lubricating equipment used for ASTM grade distillate or residual fuels, lubricants, and hydraulic fluids
- On-site storage tanks not subject to any New Source Performance Standards (NSPS), including underground storage tanks (UST), storing gasoline or diesel used exclusively for fueling of the facility's fleet of vehicles
- Natural gas, propane, and liquefied petroleum gas (LPG) storage tanks and transfer equipment
- Pressurized tanks containing gaseous compounds
- Vacuum sheet stacker vents
- Emissions from wastewater discharges to publicly owned treatment works (POTW) provided the source is authorized to discharge to the POTW, not including on-site wastewater treatment and/or holding facilities
- Fire suppression and training
- Paved roads and paved parking lots within an urban growth boundary
- Hazardous air pollutant emissions of fugitive dust from paved and unpaved roads, except for those sources that have processes or activities that contribute to the deposition and entrainment of hazardous air pollutants from surface soils
- Health, safety, and emergency response activities
- Oil/water separators in effluent treatment systems
- Combustion source flame safety purging on startup

EMISSION LIMITS AND STANDARDS, TESTING, MONITORING, AND RECORDKEEPING

Facility Wide Requirements

17. The permit establishes 'reasonable precautions' to minimize fugitive dust for this facility. Compliance is demonstrated through a plant survey of visible emissions to be completed at least once a month using EPA Method 22. The permittee is required to take corrective action if any fugitive emissions are identified or to conduct a Modified EPA Method 9 test within 24 hours.
 - 17.a. The monitoring frequency was changed from weekly to monthly as part of the 2022 permit renewal, because the facility is not at high risk for fugitive emissions.

18. The permit limits the potential for creating a public nuisance from odors and large-size (fallout) particulate matter. Monitoring for these conditions is the maintenance of a complaint log and keeping records of complaint responses and resolutions in a timely manner.

Paint Booth Operations

19. This emission unit is subject to the visible emission limitations under LRAPA 32-010(3). It may not have visible emissions equal to or greater than 20% opacity for a period or periods aggregating more than three (3) minutes in any one (1) hour. Compliance is demonstrated through a plant survey of visible emissions to be completed at least once a month. The permittee is required to take corrective action if any visible emissions are identified or to conduct a Modified EPA Method 9 test within 24 hours.
 - 19.a. The monitoring frequency was changed from weekly to monthly as part of the 2022 permit renewal, because the facility is not at high risk for visible emissions.
20. This emission unit is subject to particulate matter emission limitations under LRAPA 32-015(2)(b). For sources installed, constructed or modified on or after June 1, 1970 but prior to April 16, 2015 for which there are no representative compliance source tests, the particulate matter emission limit is 0.14 grains per dry standard cubic foot. Compliance is demonstrated through a plant survey of visible emissions to be completed at least once a month. The permittee is required to take corrective action if any visible emissions are identified or to conduct a Modified EPA Method 9 test within 24 hours.

Metal Fabrication 1, Metal Fabrication 2, and Burn Tables (Whitney, Messer, and Wet)

21. These emission units are subject to the visible emission limitations under LRAPA 32-010(3). They may not have visible emissions equal to or greater than 20% opacity for a period or periods aggregating more than three (3) minutes in any one (1) hour. Compliance is demonstrated through a plant survey of visible emissions to be completed at least once a month. The permittee is required to take corrective action if any visible emissions are identified or to conduct a Modified EPA Method 9 test within 24 hours.
 - 21.a. The monitoring frequency was changed from weekly to monthly as part of the 2022 permit renewal, because the facility is not at high risk for visible emissions.
22. These emission units are subject to particulate matter emission limitations under LRAPA 32-015(2)(b). For sources installed, constructed or modified on or after June 1, 1970 but prior to April 16, 2015 for which there are no representative compliance source tests, the particulate matter emission limit is 0.14 grains per dry standard cubic foot. Compliance is demonstrated through a plant survey of visible emissions to be completed at least once a month. The permittee is required to take corrective action if any visible emissions are identified or to conduct a Modified EPA Method 9 test within 24 hours.

EMISSION LIMITS FOR INSIGNIFICANT ACTIVITIES

23. As identified earlier in this Review Report, this facility has insignificant emissions units (IEUs) that include categorically insignificant activities, as defined in LRAPA title 12 and/or OAR 340-200-0020. For the most part, the standards that apply to IEUs are for opacity and particulate matter. 40 CFR 70.6(a)(3) of the federal Title V permit rules, requires all monitoring and analysis procedures or test methods required under applicable requirements be contained in Title V permits.

In addition, where the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the facility's compliance with the permit. However, the requirements to include in a permit testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance does not require the permit to impose the same level of rigor with respect to all emissions units and applicable requirement situations. It does not require extensive testing or monitoring to assure compliance

with the applicable requirements for emissions units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions.

Where compliance with the underlying applicable requirement for an insignificant emission unit is not threatened by a lack of a regular program of monitoring and where periodic testing or monitoring is not otherwise required by the applicable requirement, then in this instance the status quo (i.e., no monitoring) will meet Section 70.6(a)(3). For this reason, this permit includes limited requirements for categorically insignificant activities

PLANT SITE EMISSION LIMITS

24. Provided below is a summary of the baseline emission rate, netting basis, plant site emission limit and emissions capacity.

Pollutant	Baseline (tons/yr)	Netting Basis		Plant Site Emission Limit (PSEL)			PTE (tons/yr)
		Previous (tons/yr)	Proposed (tons/yr)	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase (tons/yr)	
PM	0	0	0	24	24	0	4.7
PM ₁₀	0	0	0	14	14	0	4.7
PM _{2.5}	NA	NA	NA	9	9	0	4.7
CO	0	0	0	---	---	---	---
NO _x	0	0	0	---	39	39	13.9
SO ₂	0	0	0	---	---	---	---
VOC	0	0	0	39	39	0	34.6
Pb	0	0	0	---	---	---	---
GHG	NA	NA	NA	NA	NA	NA	NA

25. The PSEL for NO_x was added as part of the 2022 Construction ACDP. There were no other changes to the PSEL or netting basis with the 2022 Construction ACDP issuance. The original PSEL limits set in the first Construction ACDP, were 2 tons/yr of PM, 2 tons/yr of PM₁₀, and 39 tons/yr of VOC. The First Title V permit changed the PM and PM₁₀ PSELs to the generic PSEL levels of 24 tons/yr of PM and 14 tons/yr of PM₁₀. During the 2014 permit renewal, the PM_{2.5} PSEL was added at the generic PSEL level of 9 tons/yr.
26. The baseline emission rate for greenhouse gases (GHGs) was not evaluated for the facility. The facility is not subject to GHG reporting as required in OAR 340-215-0030 because they emit less than 2,500 metric tons of CO₂ equivalent per year. The facility has no unassigned emissions.
27. A baseline emission rate will not be established for PM_{2.5} per LRAPA title 42.

HAZARDOUS AIR POLLUTANTS/TOXIC AIR CONTAMINANTS

28. JCI is below the major source threshold of ten (10) tons per year for any single HAP and 25 tons per year for total HAPs at this time. Even though the current potential HAP emissions are below the major thresholds, the facility is subject to the Metal Parts National Emission Standard for Hazardous Air Pollutants (40 CFR 63 Subpart M) because the facility had actual emissions greater than the 10 tons per year of a single HAP (Xylene) from 2003-2006 which is over the major source threshold. The compliance date for Subpart M for existing sources was January 2, 2007. The facility was discovered as an un-permitted source after the compliance date and had potential xylene emissions that were above the major source threshold.

29. Under the Cleaner Air Oregon program, only existing sources that have been notified by LRAPA and new sources are required to perform risk assessments. This source has not been notified by LRAPA and is therefore, not yet required to perform a risk assessment or report annual emissions of toxic air contaminants. DEQ required reporting of approximately 600 toxic air contaminants in 2016 and regulates approximately 260 toxic air contaminants that have Risk Based Concentrations established in rule. All federal hazardous air pollutants are on the list of approximately 600 toxic air contaminants. After the source is notified by LRAPA, they must update their inventory and perform a risk assessment to see if they must reduce risk from their toxic air contaminant emissions. Until then, sources will be required to report toxic air contaminant emissions triennially.

The hazardous air pollutants (HAPs) and toxic air contaminants (TACs) listed below are based upon product data sheets, standard emission factors for the types of emission units at this facility, and the 2020 ATEI (Air Toxic Emission Inventory).

HAPs/TACs	Potential Emissions (tons/yr)	HAP Y/N
Acetone	1.64	N
Methyl Ethyl Ketone	1.47	N
1,2,4-Trimethylbenzene	1.14	N
Xylene	0.41	Y
Nickel	0.29	Y
1,3,5-Trimethylbenzene	0.27	N
Manganese	0.24	Y
Cumene	0.24	Y
Propylene Glycol Monomethyl Ether Acetate	0.19	N
Ethylbenzene	0.08	Y
1,2,3-Trimethylbenzene	0.04	N
Methyl Isobutyl Ketone	0.03	Y
Hexamethylene-1,6-diisocyanate	0.01	Y
Styrene	0.01	Y
Methyl Methacrylate	<0.01	Y
Propylene Glycol Monomethyl Ether	<0.01	N
Ethylene Glycol Monobutyl Ether	<0.01	Y
Toluene	<0.01	Y
Total	6.06	

FEDERAL REQUIREMENTS

30. The applicability of various federal requirements is as follows:
- 30.a. Accidental Release: The source has certified that the facility is not subject to 40 CFR Part 68, which requires a risk management plan for toxic and flammable substances releases.
 - 30.b. Compliance Assurance Monitoring (CAM): The Compliance Assurance Monitoring requirements of 40 CFR 64 apply to units that are subject to an emission limit, utilize a control device to achieve compliance with that limit, and have pre-control emissions above major source thresholds (i.e. greater than 100 tons per year for criteria pollutants; greater than 10 tons per year for individual Federal HAPs). None of the emission units at the facility use a control device to achieve compliance with an emission limit, so none of the emission units at the facility are subject to the CAM regulations.
 - 30.c. NSPS Subpart OOO: 40 CFR Part 60, Subpart OOO is not applicable to the facility because the facility manufactures rock crushing and handling equipment and does not process any nonmetallic minerals on site.

30.d. NESHAP Subpart M MMM: The facility is subject to the requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 Subpart M MMM, for Surface Coating of Miscellaneous Metal Parts and Products. The requirements applicable to the facility are identified on the following table:

40 CFR Part 63, Subpart M MMM citation	Description	Applicable to source (yes/no)	Comments	Permit condition
63.3880	Purpose	Yes	None	NA
63.3881	Applicability	Yes	None	NA
63.3882	Applicability	Yes	None	NA
63.3883	Initial compliance	Yes	None	NA
63.3890	Emission limits	Yes	None	11
63.3891	Emission limit compliance options	Yes	None	12
63.3892	Operating limits	No	Not applicable if using the compliant material option, or the emission rate without add-on controls option.	NA
63.3893	Work practices	No	Not applicable if using the compliant material option, or the emission rate without add-on controls option.	NA
63.3900	General requirements	Yes	None	15.i.iv, 16.d.v, 16.e.iv
63.3901	Part 63 General Provisions	Yes	None	NA
63.3910	Notification requirements	No	None	NA
63.3920	Reporting	Yes	None	16
63.3930	Recordkeeping	Yes	None	15
63.3931	Recordkeeping	Yes	None	15.j, 15.k, 15.l
63.3940	Initial compliance dates	Yes	Compliant material option	13
63.3941	Initial compliance demonstration	Yes	None	13

40 CFR Part 63, Subpart MMMM citation	Description	Applicable to source (yes/no)	Comments	Permit condition
63.3942	Continuous compliance demonstration	Yes	None	13
63.3950	Initial compliance dates	Yes	Emission rate without add-on controls option	14
63.3951	Initial compliance demonstration	Yes	None	14
63.3952	Continuous compliance demonstration	Yes	None	14
63.3960	Performance tests and initial compliance dates	No	Emission rate with add-on controls option	NA
63.3961	Record retention	No	None	NA
63.3963	Continuous compliance demonstration	No	None	NA
63.3964	Performance tests	No	None	NA
63.3965	Determining emission capture efficiency	No	None	NA
63.3966	Determining add-on control device emission capture efficiency	No	None	NA
63.3967	Establishing control device operating limits	No	None	NA
63.3968	CPMS requirements	No	None	NA
63.3980	Implementation and enforcement	Yes	None	NA
63.3981	Definitions	Yes	None	12

STRATOSPHERIC OZONE DEPLETING REQUIREMENTS

- The facility does not manufacture, sell, distribute, or use in the manufacturing of a product any stratospheric ozone-depleting substances and the EPA 1990 Clean Air Act, as amended. Sections 601-618 of the act do to apply to the facility except that air conditioning units and fire extinguishers containing Class I or Class II substances must be serviced by certified repairmen to ensure that the substances are recycled or destroyed appropriately.

GENERAL TESTING REQUIREMENTS

32. The facility is not required by the permit to conduct source testing.

RECORDKEEPING REQUIREMENTS

33. The permit includes requirements for maintaining records of all testing, monitoring, and production information necessary for assuring compliance with the standards and calculating plant site emissions. The records of all monitoring specified in the Title V permit must be kept at the plant site for at least 5 years.

REPORTING REQUIREMENTS

34. The permit includes a requirement for submitting semi-annual and annual monitoring reports that include semi-annual compliance certifications. Excess emissions are required to be reported to LRAPA immediately as well as in a logbook attached to the annual report. Emissions fees reports are required annually.

COMPLIANCE HISTORY

35. This facility is regularly inspected by LRAPA. The following table indicates the compliance history of this facility since they were issued a Title V permit.

Type of Inspection	Date	Results
Full Compliance Evaluation	09/30/2010	On Schedule
Full Compliance Evaluation	08/08/2012	In compliance
Full Compliance Evaluation	08/21/2013	In compliance
Full Compliance Evaluation	08/04/2014	In compliance
Full Compliance Evaluation	08/09/2016	In compliance
Full Compliance Evaluation	09/14/2018	In compliance
Full Compliance Evaluation	02/16/2021	Not in Compliance

36. On May 18, 2007, JCI received a Notice of Non-Compliance (NON No. 2937) for failure to obtain an Air Contaminant Discharge Permit, Synthetic Minor Air Contaminant Discharge Permit or a Title V Operating Permit, failure to perform required monitoring and reporting; failure to pay emission fees, and failure to comply with the requirements of NESHAPs Subpart M (see Items 7, 8 and 9 of this report for more information).
37. On April 21, 2008, JCI received a Notice of Non-Compliance (NON No. 2992) for conducting metal parts coating operations for the twelve month periods ending January 31, 2008 and February 29, 2008 such that the emission rate for Hazardous Air Pollutants exceeded 2.6 lb HAP/ gallon of coating solids (3.48 lb HAP/gallon coating solids ending January 31, 2008; 2.84 lb HAP/ gallon coating solid ending February 29, 2008).
38. On October 24, 2011, JCI received a Stipulation and Final Order (SFO No.11-2937) which combined NON No. 2937 and No. 2992 and in tandem with the Stipulation of Settlement and Judgment being proposed in the case United States of America v. Johnson Crushers International, where JCI paid civil penalties of \$60,000 was paid to LRAPA and \$175,000 was paid to the U.S. Attorney's Office.
39. On June 14, 2021, JCI received a Notice of Non-Compliance (NON No. 3837) and a Notice of Civil Penalty (NCP 21-3837) for failure to conduct weekly monitoring for fugitive emissions, failure to maintain records of fugitive emissions, failure to conduct weekly point source emissions monitoring, and failure to

maintain records of point source emissions monitoring. The initial date of the violation occurred on July 27, 2020 and continued until November 3, 2020. The violation occurred partly as a result of some staff working from home due to COVID-19 protocols at JCI, and then a subsequent change in staff. JCI discovered the violation and reported it to LRAPA. JCI paid the full civil penalty of \$4,200 on July 20, 2021.

TITLE V PERMIT CHANGELOG

40. The following is a list of condition-by-condition changes between the previous permit and the proposed permit.

New Permit Condition Number	Old Permit Condition Number	Description of change	Reason for change
1	1	None	NA
2	2	Updated condition language.	Clarification.
3	3	Updated the Emission Unit Descriptions and IDs	Update/Correction to existing EUs, and to include previously missed EUs.
4	NA	Added condition number where it was missing.	Number was missing.
5	4	Added reasonable precautions to Fugitive Emission rule and changed frequency of visual survey. Updated rule reference.	Clarification and rule update.
6	5	Updated/added rule reference.	Clarification.
7	6	Updated condition language and rule reference.	Standard permit template language
8	7	Updated condition language and rule reference.	Clarification and rule update.
9	8	No change.	NA
10	9	Updated rule reference and updated PSEL table.	Clarification, correction, and rule update.
11	10	Updated calculation method, split EF table into two tables, updated EFs. Updated condition language and rule reference. Added NOx to condition.	Update/Correction to existing EFs and added EFs to correlate with updated EU ID designations.
12	NA	The visible emission conditions for the paint booths were previously referencing those conditions in a different section. Added the EU specific conditions to the EU. Also updated condition language and frequency of VE survey. Added conditions for required actions if VE require action.	Clarification.
13	NA	Same as Condition 12; the grain loading condition was referencing a different section. Also updated condition language and rule reference.	Clarification and correction to rule reference.

New Permit Condition Number	Old Permit Condition Number	Description of change	Reason for change
14	11	Clarified rule language.	Clarification.
15	12	Corrected rule language.	Correction.
16	NA	Added missing conditions for Subpart MMMM	Standard permit template language.
17	NA	Added missing conditions for Subpart MMMM	Standard permit template language.
18	13	Updated condition language and added updated conditions for Subpart MMMM	Standard permit template language.
19	14	Removed reporting dates from this condition and referred to applicable reporting section conditions. Also updated condition language and added updated conditions for Subpart MMMM	Standard permit template language.
20	15	Updated condition language and frequency of VE survey. Added conditions for required actions if VE require action.	Clarification.
21	16	Updated condition language and rule reference.	Clarification.
22	17	Updated/expanded condition language.	Clarification.
23	18	No change	NA
24	19	Updated condition language and removed emission fee table.	Clarification.
25	20	Updated condition language.	Standard permit template language.
26	21	No change	NA
27	22	No change	NA
28	23	No change	NA
NA	24	Removed 12-month individual and combined HAP monitoring.	The facility is a major source subject to 40 CFR 63 subpart MMMM and therefore does not have a HAP PSEL.
29	25	No change	NA
30	26	No change	NA
31	27	No change	NA
32	28	No change	NA
33	29	Updated excess emission contact name in 29.c	Update/correction.
34	30	No change	NA
35	31	No change	NA
36	32	No change	NA
37	33	Updated EPA address.	Update/correction.
38	34	Updated condition language and removed the reporting requirement for	Standard permit template language.

New Permit Condition Number	Old Permit Condition Number	Description of change	Reason for change
		the HAP monitoring condition that was removed (previous Condition 24)	
39	35	Updated condition language.	Standard permit template language.
40	36	No change	NA
41	37	No change	NA
General Conditions G1. - G 29.	General Conditions G1. - G29.	Updated to newest version of the general conditions.	Standard permit template language

PUBLIC NOTICE

41. This permit will be on public notice from June 8, 2022 to July 13, 2022. Comments may be submitted in writing during the comment period. LRAPA will hold a public hearing if requested by 10 or more individuals or one person representing a group of 10 or more individuals. After the comment period and hearing, if requested, LRAPA will review the comments and modify the permit as may be appropriate. A proposed permit will then be sent to EPA for a 45-day review period. LRAPA may request and EPA may agree to an expedited review of 5 days if there were no substantive or adverse comments during the comment period.

If the EPA does not object in writing, any person may petition the EPA within 60 days after the expiration of EPA’s 45-day review period to make such objection. Any such petition must be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided for in OAR 340-218-0210, unless the petitioner demonstrates that it was impracticable to raise such objections within such period, or unless the grounds for such objection arose after such period.

EPA REVIEW

42. Will be updated after EPA review.

cnc/cmw
 05/31/2022

NOx and HAP emissions for Burn Tables (Plasma Cutters) - BT-1, BT-2, and BT-3				
NOx Emissions				
Unit Identification	Cutting Technique	Metal Type	NOx Emissions Uncontrolled ⁽²⁾ (lb/hr)	NOx Emissions Uncontrolled ⁽³⁾ (TPY)
Whitney Burn Table (BT-1)	Dry	Stainless Steel, 35mm	1.35	5.92
Messer Burn Table (BT-2)	Dry	Stainless Steel, 35mm	1.35	5.92
Wet Burn Table (BT-3)	Wet	Stainless Steel, 35mm	0.36	1.56
Total =			3.06	13.40

HAP/TAC Emissions - All burn tables combined						
Pollutant	CAS No.	Fume Percent	Uncontrolled Emissions (lb/hr)	Uncontrolled Emissions (TPY)	Potential Emissions (lb/hr)	Potential Emissions (TPY)
Copper	7440-50-8	1.4%	0.086	0.375	0.002	0.009
Manganese	7439-96-5	10%	0.612	2.680	0.015	0.068
Total =					0.02	0.08

PM Emissions ⁽¹⁾									
Unit Identification	Cutting	Metal Type	Fume	Control Device	% Control	PM Emissions -	PM Emissions -	PM Emissions -	PM Emissions -
Whitney Burn Table (BT-1)	Dry	Mild Steel, 8mm	23	Baghouse	98	3.04	0.061	13.33	0.267
Messer Burn Table (BT-2)	Dry	Mild Steel, 8mm	23	Baghouse	98	3.04	0.061	13.33	0.267
Wet Burn Table (BT-3)	Wet	Mild Steel, 8mm	0.25	Water ⁽⁶⁾	0	0.033	0.033	0.145	0.145
Total =						6.12	0.15	26.80	0.68

Fume Generation Rate/Specific Gravity Table			
Metal	Dry (g/min)	Semidry (g/min)	Wet (g/min)
Mild Steel, 8mm	23	3	0.25
Stainless Steel, 8mm	35	4.1	0.35
Stainless Steel, 35mm	2.6	0.2	0.02

NOx Emission Rate Table						
Converted from vol/min to mass/min ⁽⁴⁾						
Metal	Dry (l/min)	Semidry (l/min)	Wet (l/min)	Dry (g/min)	Semidry (g/min)	Wet (g/min)
Mild Steel, 8mm	4.95	2.75	1.05	6.83	3.80	1.45
Stainless Steel, 8mm	4.75	2.45	1.15	6.56	3.38	1.59
Stainless Steel, 35mm	7.4	3.9	1.95	10.22	5.38	2.69

- Notes:**
- (1) Plasma cutter PM emissions are only used here to calculate potential HAP/TAC emissions. The burn table PM emissions are calculated based on mass of captured material.
 - (2) 453.592 gram/pound
 - (3) Potential emissions assume 8760 hours per year of operation.
 - (4) NOx emissions assume NO₂ is 7.5% of the total emissions of NOx (NO and NO₂). Assumes NO has a density of 1.34 g/L and NO₂ has a density of 1.88 g/L.
 - (5) Mild steel fume is 67-73% iron, 2-10% manganese, and ND-1.4% copper. Stainless steel (310) fume is 25.4% iron, 4.4% manganese, 10.3% nickel, and 20.2% chromium(VI).
 - (6) Water control efficiency built into the fume generation rate
 - (7) Emissions are based on "Emission of Fume, Nitrogen Oxides and Noise in Plasma Cutting of Stainless and Mild Steel" by Bromsen B. et al. (1994)

Plantwide PM emissions												
Based on highest year from annual reports, and including scale up factor												
				Uncontrolled	Controlled w/ BH-1 & BH-2	Controlled w/ BH-N & BH-S						
Particulate collected from baghouses	Welding wire/rod usage	5% of total weight (for MF-1 and MF-2) ⁽¹⁾	95% of total weight (for Burn Tables)	MF-1 Emissions	MF-2 Emissions	Burn Table Emissions	Welding Wire Emissions	Paint Booth Emissions	Paved Road Dust Emissions	Total PM	Total PM	PM, PM ₁₀ and PM _{2.5} PTE
(lb)	(lb)	(lb)	(lb)	(lb/yr)	(lb/yr)	(lb/yr)	(lb/yr)	(lb/yr)	(lb/yr)	(lb/yr)	(ton/yr)	(ton/yr)
60,000	120,000	3,000	57,000	3,061.2	61.2	1,162.8	1,812	1,320	2,000	9,417.2	4.71	7.06

Emission Factors from Permit

EU	Throughput	Unit	EF (lb PM, PM ₁₀ , PM _{2.5})
MF-1	Material Collected from BH-N, and BH-S ⁽²⁾	lb	1.0204
MF-2	Material Collected from BH-N, and BH-S ⁽³⁾	lb	0.0204
BT-1 & BT-2	Material Collected from BH-1 and BH-2 ⁽⁴⁾	lb	0.0204
MF-1 & MF-2	Welding Wire ⁽⁵⁾	1,000 lb	15.1
PBO	Paint Booth Particulate - Constant	lb PM ₁₀ /month	110
Paved Road Dust	Fugitives - Constant	lb PM ₁₀ /year	2000

Scale up factor for PTE	1.5
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Based on 20 hr days Mon-Thur and 12 hour days Fri-Sun scaled to 24/7

(1) Facility has been weighing all baghouse material collected and has not been weighing the baghouse collections for the burn tables separately. 5% is assumed to be the amount collected from BH-1 & BH-2 (for MF-2).

(2) MF-1 is assumed to have the same amount of emissions as MF-2. Since MF-2 is controlled by baghouses, the emissions from MF-1 are assumed to be all the emissions that are collected by baghouses BH-N & BH-S, and also those that passed through the baghouses. So the EF for MF-2 = 1.02041 (lb PM₁₀ / lb baghouse captured).

(3) To calculate the EF for the 2% of PM₁₀ emissions that passed through the baghouse, this formula was used: $(100\% \div x\%) - 100\%$, where x = the baghouse efficiency. For a 98% efficient baghouse the EF is: $(100\% \div 98\%) - 100\% = 0.02041$ (lb PM₁₀ / lb baghouse captured).

(4) The Wet burn table emissions are not routed to a baghouse, but rather emitted locally like the other metal fab equipment, so the PM emissions are included in the MF-1 emissions.

(5) Cross referencing the welding wire/rod types reported in the 2020 ATEI, the worst case PM EF is 15.1 (lb PM/1000 lb rod used)

Welding Emissions			
2021 Actual GMAW Welding Wire/Rod Usage =	25.22	1000 lbs	
2021 Actual FCAW Welding Wire/Rod Usage =	43.7	1000 lbs	
Scale Up Factor (1)=	3		

HAP/TAC Emissions				2020 Welding Wire/Rod Usage By Type							
Pollutant	Cas No.	Potential Emissions (lb/hr)	Potential Emissions (TPY)	Process	Type	Emission Factors (lb/1000 lb)					
						Chromium	Chromium (VI)	Cobalt	Manganese	Nickel	Lead
Chromium (Total)	7440-47-3	2.4E-06	0.02	GMAW	ERCuAl ⁽²⁾	0.55	ND	ND	0.846	0.485	ND
Chromium (VI)	18540-29-9	0	0	GMAW	E70S	0.001	ND	0.001	0.318	0.001	ND
Cobalt	7440-48-4	1.2E-08	0.0001	FCAW	E70T	0.004	ND	ND	0.891	0.005	ND
Manganese	7439-96-5	1.0E-05	0.09	FCAW	E71T	0.002	ND	0.001	0.662	0.004	ND
Nickel	7440-02-0	2.1E-06	0.02								
Lead	7439-92-1	0	0								

Notes:

- (1) 2021 usage was roughly half of the highest usage year, and the scale up factor based on the highest year is 1.5, so scale up factor for 2020 welding is 3.
- (2) Unspecified rod type EFs used for this wire on the ATEI.
- (3) Assumes highest emitting welding wire/rod for calendar year 2020 based on welding type.
- (4) ND (No Detect) is represented as zero.
- (5) '<' than the detection limit values represented as the detection limit.
- (6) Lead is assumed to be from lead compounds
- (7) The NOx and CO emissions from welding are assumed to be negligible.
- (8) Hourly emissions are based on annual usage divided by 8760.

NG Heater Emissions								
Source	Units (lbs per)	PM	PM10	PM2.5	VOC	NOx	CO	SO2
Natural Gas Sources (Heaters in Booths)		(lb/MMcf)	(lb/MMcf)	(lb/MMcf)	(lb/MMcf)	(lb/MMcf)	(lb/MMcf)	(lb/MMcf)
	MMcf NG	7.6	7.6	7.6	5.5	100.0	84.0	2.6
	12 Month Usage							
Natural Gas heater usage	6.851	MMcf NG						
Scale up factor for PTE	1.5							
			PTE					
			tons/yr					
	Total	PM	0.03905					
	Total	PM10	0.03905					
	Total	PM2.5	0.03905					
	Total	VOC	0.02826					
	Total	NOX	0.51383					
	Total	CO	0.43161					
	Total	SOX	0.01336					