

A8892

MANILA

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

A889252526

<b>FACILITY:</b> AmeriTi Manufacturing Company	<b>SRN / ID:</b> A8892
<b>LOCATION:</b> 19300 FILER, DETROIT	<b>DISTRICT:</b> Detroit
<b>CITY:</b> DETROIT	<b>COUNTY:</b> WAYNE
<b>CONTACT:</b> Adam Perry, Vice President of Operations	<b>ACTIVITY DATE:</b> 12/05/2019
<b>STAFF:</b> Todd Zynda	<b>COMPLIANCE STATUS:</b> Non Compliance
<b>SUBJECT:</b> December 5, 2019 Inspection	<b>SOURCE CLASS:</b> <del>MINOR</del> <b>SM OPT OUT</b>
<b>RESOLVED COMPLAINTS:</b>	

PURPOSE OF INSPECTION: Targeted

INSPECTED BY: Todd Zynda (AQD)

PERSONNEL PRESENT: Robert L. Swenson, President; Ron Vickers, Environmental Manager; Adam Perry, Vice President of Operations; Constantinos Loukeris, USEPA Region 5; Natalia Vazquez, USEPA Region 5

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**FACILITY BACKGROUND**

AmeriTi Manufacturing (AmeriTi), formerly known as Global Titanium, Inc. (GTI) located at 19300 Filer Avenue, Detroit, Michigan, is a titanium processing and distribution facility. AmeriTi processes all types of titanium scrap, melts, analyzes and processes ferrotitanium, screens and segregates titanium sponge, and produces titanium hydride-dehydride (HDH) powder. The facility has 140 employees and operates 24 hours a day, seven days a week. The facility operates equipment under PTI 549-97A.

AmeriTi operates the following equipment and associated controls as listed in Table 1.

Table 1				
Location	Equipment	Control	PTI Exemption	Permit
Wash Building 1	EUDRYER 1 - Metal chip dryer	Rotoclone wet dust collection	NA	PTI 549-97A
Wash Building 1	CT-1 Crusher shearing titanium turnings	Wet process, emissions released to general in-plant environment	R 336.1285(2)(l)(vi)(B)	NA
Wash Building 1	Wastewater treatment	Emissions released to general in-plant environment	R 336.1285(2)(m)(i)	NA
Wash Building 2	EU DRYER 2 - Titanium dryer	Venturi wet scrubber	NA	PTI 549-97A
Wash Building 2	CT-1 Crusher shearing titanium turnings	Wet process, emissions released to general in-plant environment	R 336.1285(2)(l)(vi)(B)	NA
Melt Shop	EUCRUSHER1 - Kue Ken 90 Crusher	TRI-MER Scrubber	NA	PTI 549-97A
Melt Shop	FGFURNACE - Two induction type furnaces	Baghouse dust collection system	NA	PTI 549-97A
Melt Shop	Drying oven (400,000 Btu/hr)	None	R 336.1281(2)(e)	NA
Melt Shop	Emergency Generator - 66 KW - natural gas	NA	R 336.1285(2)(g)	NA

Torch Cutting Building	Torch cutting	Baghouse dust collection system	R 336.1285(2)(l)(vi)(C)	NA
Torch Cutting Area	Metal Shredder	Enclosure	R 336.1285(2)(l)(vi)(B)	NA
Warehouse 5	Briquetting Machines	Emissions released to general in-plant environment	R336.1285(2)(l)(i)	NA
TICO Building	Kue Ken 55 Crusher	TRI-MER Scrubber	NA	PTI 549-97A
Warehouse 4	Roll Crusher	TRI-MER Scrubber	NA	PTI 549-97A
TICO Building	Kue Ken 24 Crusher	TRI-MER Scrubber	NA	PTI 549-97A
HDH Building	Granulator	AER HAZDUST Scrubber	NA	Included in PTI 549-97B application
HDH Building	Rod Mill Crusher	AER HAZDUST Scrubber	NA	Included in PTI 549-97B application
HDH Building	HDH furnaces	closed system, any emissions to the general in-plant environment	NA	Included in PTI 549-97B application
HDH Building	Pressurized Hydrogen Storage Tank(s)	NA	R336.1284(2)(j)	NA
7 Mile Building	Shot blasting	Dust collection system	R 336.1285(2)(l)(vi)(C)	NA
7 Mile Building	Welding	Baghouse	R 336.1285(2)(i)	NA
7 Mile Building	Electric Vacuum-Welding Furnaces	10-micron filter and oil demister	NA	Included in PTI 549-97B application
7 Mile Building	Metal Injection Molding (MIM) Process	Sintering oven with Afterburner	NA	Included in PTI 549-97B application
7 Mile Building	Kiln (burn-off) oven	Afterburner	NA	Included in PTI 549-97B application

## COMPLAINT HISTORY

Since 2008, there have been 28 complaints regarding odors and/or opacity from AmeriTi. On September 20, 2016 a violation notice was issued for violation of R 336.1901(b) regarding burnt metal odors downwind of the facility. AmeriTi believed that the odor and/or opacity were originating from either the Wash Building 1 or Wash Building 2 scrubber stacks. As a result, on June 19, 2017, AmeriTi has installed a new fan on the Wash Building 2 venturi scrubber. There have been 8 complaints since the last inspection on June 8, 2017. The AQD has not been able to verify a Rule 901 violation during any of the recent complaint investigations.

## CONSENT ORDERS

On September 11, 2019 Consent Order AQD No. 2019-16 became effective, resolving the violations identified in a Violation Notice dated December 5, 2018. The consent order requires compliance with R 336.1201 (Rule

201). On August 15, 2019, a PTI application was received for the unpermitted equipment in the 7 Mile Building, the equipment in the HDH building and the relocation of the crushers from the TICO Building to Warehouse 4.

## INSPECTION NARRATIVE

On December 4, 2019 the Michigan Department Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) inspector, Mr. Todd Zynda, conducted an inspection of AmeriTi located at 19300 Filer, Detroit, Michigan. This inspection was conducted in conjunction with United States Environmental Protection Agency (USEPA) inspection of the facility (Constantinos Loukeris, USEPA Region 5 and Natalia Vazquez, USEPA Region 5). During the December 5, 2019 inspection Mr. Ron Vickers, Environmental Manager, Mr. Robert Swenson, President, and Mr. Adam Perry, Vice President of Operations, provided information and a tour of facility operations.

The inspection was conducted to determine the facility's compliance with the Natural Resources and Environmental Protection Act (NREPA), Act 451, Part 55, and Permit to Install (PTI) 549-97A.

During the inspection, facility operations and the EGLE AQD records request was discussed with Mr. Vickers, Mr. Perry, and Mr. Swenson.

The inspection began with observation of Wash Building 2. During the inspection the wash line was not operating (down for maintenance). The process in Wash Building 2 begins with the shearing (the company uses the term crushing, but it is more of a shearing process) of titanium turnings (CT-2). The shearing is a wet process, with any potential emissions released to the general in-plant environment. The cut turnings are then washed (soap based solution) through a screw conveyor. Following the wash, the turnings enter a centrifuge to spin off water and reclaim soap. Following the centrifuge, a rinse stage is completed using a rinse auger, followed by another centrifuge to spin off excess water. The cleaned turnings then enter a dryer (2.5 MMBtu per hour). Emissions from the drying of the turnings are controlled by a venturi scrubber. During the inspection the scrubber was not in operation as the wash line was down for maintenance. As described above under Complaint History, the venturi scrubber had a new fan installed, which was observed during the June 27, 2017 facility visit. The turnings are then sized using screens and magnets are used to pull out any magnetic material (iron).

Following observation of Wash Building 2, Wash Building 1 was observed. Similar to Wash Building 2, the process begins with the shearing of titanium turnings (CT-1). The shearing is a wet process, with any potential emissions released to the general in-plant environment. The washing of the turnings operates in a similar fashion as Wash Building 2 (wash, centrifuge, rinse, centrifuge, and dryer), with a slightly different set up and older emissions control). The metal chip dryer with cyclone (rotoclone) wet dust collection was originally permitted by Wayne County Installation Permit (WCIP) C-2313 and was certified on September 7, 1972. WCIP C-2313 was issued to Frankel Company Inc. (Frankel). AmeriTi purchased Frankel in 1996. The facility now operates equipment in Wash Building 1 under PTI 549-97A. During the inspection, there was no flow meter installed on the wet dust collection system (rotoclone). Following the facility inspection, a flow meter was installed in early December, and the facility began daily flow measurements. Wash Building 1 also includes the facility wastewater treatment. According to Mr. Vickers, the wastewater does not contain VOCs.

Following observation of Wash Buildings 1 and 2, the HDH Building was observed. Observation of the HDH building began with the powders processing area. Powders are processed using "Granulator" and "Rod Mill Crusher" both of which are controlled by an AER Control System wet dust collection system that vents to outside ambient air. Following the powders process area, the HDH furnaces were observed. AmeriTi operates 4 electric HDH furnaces (2 small - 4,000 lb capacity, 2 large - 10,000 lb capacity). The process uses hydrogen to make titanium brittle enough to be crushed. The titanium is then crushed (in powders processing area) into a fine powder and then the hydrogen is removed under vacuum. The hydrogen storage tanks are located on the trailer beds adjacent to the south of the HDH building.

Following observation of the HDH Building, the TICO Building was observed. The TICO Building houses the Kue Ken 55 Crusher and Kue Ken 24 Crusher with associated dust collection (TRI MER). The pressure drop on the TRI MER scrubber read between 7 to 10 inches water. The roll crusher that previously operated in the TICO building has been moved to the Warehouse 4. The facility has stated that both the Kue Ken 24 and Kue Ken 55 will also be moved to Warehouse 4 as indicated by the PTI 549-97B application. According to correspondence provided on November 19, 2019, the crusher scrubbers do not have a water flow rate, but only a water basin that is replenished as needed. Supporting manufacturer's information was provided.

Following observation of the TICO, Warehouse 5 was observed. Warehouse Building 5 houses two briquetting machines, that hydraulically press titanium fines to hockey puck size briquettes. Any emissions from this process are released to the general in-plant environment.

Following observation of the Warehouse 5, Warehouse 4, and the roll crusher (previously located in the TICO Building) was observed. During the inspection the TRI MER scrubber pressure drop read 5.5 inches water.

Following observation of Warehouse 4, the melt shop and associated baghouse was observed. Emissions from the ferrotitanium induction-type furnaces are controlled via baghouse (40,000 cfm DUSTAR dry dust collector). During the inspection, the baghouse pressure gauge read 3.2 inches water. According to AmeriTi, the operating pressure drop range for the melt shop bag house is 2 to 6 inches water. AmeriTi records the pressure drop once per shift. Within the melt shop, AmeriTi operates a titanium crusher (Kue Ken 90 Jaw Crusher) which is vented to wet dust collection system (TRI-MER, 1500 cfm).

Following observation of melt shop, the torch cutting building was observed. Within in the torch cutting building, scrap material is sized for furnace melting. Emissions from torch cutting are vented to a baghouse (15,000 cfm MICROPUL dry dust collector). During the inspection the baghouse pressure drop was 4.8 inches water. According to AmeriTi, the operating pressure drop range for the torch cutting bag house is 0 to 10 inches water.

Adjacent to the torch cutting building is a metal shredder. The facility operates the shredder in an enclosure meeting PTI exemption R 336.1285(2)(l)(vi)(B).

The inspection concluded with observation of the 7 Mile Building and operations housed within. The 7 Mile Building inspection began with observation of the MIM. The MIM process consists of using CP-Ti (commercially pure titanium) with a propriety wax material, that is mixed and fed to the MIM. The MIM has an electric heating element that melts the wax and injects the powder/wax into a mold. The result is a "green part". The molded parts then enter a water "debrine" (to remove the wax). Following the "debrine" the molded parts enter an electric drying oven at 65 to 70 °F for 24 hours. Following the drying oven, the parts enter an electric sintering oven (1100 to 1200 °F) with afterburner control. The sintering oven vents to outside ambient air.

The casting process begins with development of wax molds used to create the cast. Once the wax mold is created, the wax is cleaned using a solution (Citru-etch II) followed by two water dip rinses. The wax molds are then taken to the dip stations/sand stations. There are three dip stations, consisting of a slurry mixture. The wax mold is dipped in the first dip station, and then enters the 1<sup>st</sup> sand tumbler station. This process repeats itself with 2<sup>nd</sup> dip station and the second sand tumbler, and then on the 3<sup>rd</sup> station. The sand tumbler station emissions are controlled by cyclone which vent to outside ambient air. Once the cast is created and dried, the wax is melted out of the cast using a steam chamber. According to AmeriTi, the steam chamber removes 99% of the wax. The boiler associated with the steam chamber read 435 psi, manufactured in 2006, and 345 lb/hour steam. Following the steam chamber, the cast enters a kiln/burn off oven at 1800 °F. According to AmeriTi there is potential for some residual wax left in the cast and the oven burns off that material. The oven is equipped with an afterburner. During the inspection the oven was not in use.

Once the cast is cleaned as ready, the cast enters a vacuum chamber where titanium (6-4 Ti, 6% aluminum, 4% vanadium) is melted under negative pressure. Prior to melting, the titanium pieces are welded together (tungsten inert gas [TIG] welding) at one of two welding stations. The welded titanium pieces are then welded to an electrode that is used in the electric furnace. Any fumes from the welding stations are collected and ducted to baghouse located on the west side the 7 Mile Building. The facility is currently melting 6-4 Ti into casts and billets. Following the melting the Ti, the cast is broken up using a knockout machine, torch cutting table, shot blast, followed by a sand blast. Emissions from these operations are controlled by a baghouse located on the west side of the 7 Mile Building.

During the previous inspection on July 24, 2017, the 66 KW natural gas fired emergency generator located near the melt shop was observed. The emergency engine was not observed during this inspection. The engine is equipped with an hour meter. According to information provided as part of the previous inspection, the engine was installed in September 2010 (manufactured date of June 2010).

## **APPLICABLE RULES/PERMIT CONDITIONS**

**PTI 549-97A****EUDRYER1**

SC II.1 and VI.1. **COMPLIANCE.** Metals processed shall not exceed 62,400 lbs per 12-hour period. Records were provided for November 1, 2019 through December 20, 2019. The highest 12-hour period metal processed occurred on November 7, 2019 at 57,575 lbs.

SC III.1 **COMPLIANCE.** Shall not operate unless a malfunction abatement plan as described in Rule 911(2) for the wet dust collection system has been submitted within 90 days of permit issuance and is implemented and maintained. A MAP was submitted. The MAP was revised after multiple iterations of AQD review and finalized on February 7, 2020.

SC IV.1. **COMPLIANCE.** Shall not operate unless the dust collector system is installed, maintained, and operated in a satisfactory manner. The facility provided pressure drop readings within the specified range in the MAP. Flow rates were later incorporated into the MAP (on February 7, 2020), therefore the flow rates were not evaluated as part of the inspection. At this time, the facility appears to be meeting this requirement.

SC VI.2. **COMPLIANCE.** Shall keep record of all inspections and maintenance performed on the wet dust collection system. The facility provided inspection and maintenance records for the wet dust collection system.

SC VIII. **COMPLIANCE.** Exhaust gases to discharge unobstructed vertically upwards, with stack dimensions of maximum exhaust diameter of 16 inches and minimum 34 feet above ground surface. Based on visual observation, the facility appears to be meeting this requirement. Measurements were not collected.

**EUDRYER2**

SC II.1 and VI.1. **COMPLIANCE.** Metals processed shall not exceed 88,800 lbs per 12-hour period. Records were provided for November 1, 2019 through December 20, 2019. The highest 12-hour period metal processed occurred on December 6, 2019 at 76,667 lbs.

SC III.1 **COMPLIANCE.** Shall not operate unless a malfunction abatement plan as described in Rule 911(2) for the wet dust collection system has been submitted within 90 days of permit issuance and is implemented and maintained. A MAP was submitted. The MAP was revised after multiple iterations of AQD review and finalized on February 7, 2020.

SC IV.1. **COMPLIANCE.** Shall not operate unless the wet venturi scrubber is installed, maintained, and operated in a satisfactory manner. The facility provided pressure drop readings within the specified range in the MAP. Flow rates were later incorporated into the MAP (on February 7, 2020), therefore the flow rates were not evaluated as part of the inspection. At this time, the facility appears to be meeting this requirement.

SC VI.2. **COMPLIANCE.** Shall keep record of all inspections and maintenance performed on the wet venturi scrubber. The facility provided inspection and maintenance records for the wet venturi scrubber.

SC VIII. **COMPLIANCE.** Exhaust gases to discharge unobstructed vertically upwards, with stack dimensions of maximum exhaust diameter of 10 inches and minimum 34 feet above ground surface. Based on visual observation, the facility appears to be meeting this requirement. Measurements were not collected.

**EUCRUSHER1**

SC II.1 and VI.1. **COMPLIANCE.** Metals processed shall not exceed 192,000 lbs per 12-hour period. Records were provided for November 1, 2019 through December 20, 2019. The highest 12-hour period metal processed occurred on December 11, 2019 at 78,200 lbs.

SC III.1 **COMPLIANCE.** Shall not operate unless a malfunction abatement plan as described in Rule 911(2) for the wet dust collection system has been submitted within 90 days of permit issuance and is implemented and maintained. A MAP was submitted. The MAP was revised after multiple iterations of AQD review and finalized on February 7, 2020.

SC IV.1. **COMPLIANCE.** Shall not operate unless the scrubber is installed, maintained, and operated in a satisfactory manner. The facility provided pressure drop readings within the specified range in the MAP. At this

time, the facility appears to be meeting this requirement.

SC VI.2. **COMPLIANCE.** Shall keep record of all inspections and maintenance performed on the scrubber. The facility provided inspection and maintenance records for the scrubber.

SC VIII. **COMPLIANCE.** Exhaust gases to discharge unobstructed vertically upwards, with stack dimensions of maximum exhaust diameter of 10 inches and minimum 40 feet above ground surface. Based on visual observation, the facility appears to be meeting this requirement. Measurements were not collected.

### **EUCRUSHER2**

SC II.1 and VI.1. **COMPLIANCE.** Metals processed shall not exceed 120,000 lbs per 12-hour period. Records were provided for November 1, 2019 through December 20, 2019. The highest 12-hour period metal processed occurred on November 6, 2019 at 74,721 lbs.

SC III.1 **COMPLIANCE.** Shall not operate unless a malfunction abatement plan as described in Rule 911(2) for the wet dust collection system has been submitted within 90 days of permit issuance and is implemented and maintained. A MAP was submitted. The MAP was revised after multiple iterations of AQD review and finalized on February 7, 2020.

SC IV.1. **COMPLIANCE.** Shall not operate unless the scrubber is installed, maintained, and operated in a satisfactory manner. The facility provided pressure drop readings within the specified range in the MAP. At this time, the facility appears to be meeting this requirement.

SC VI.2. **COMPLIANCE.** Shall keep record of all inspections and maintenance performed on the scrubber. The facility provided inspection and maintenance records for the scrubber.

SC VIII. **COMPLIANCE.** Exhaust gases to discharge unobstructed vertically upwards, with stack dimensions of maximum exhaust diameter of 23 inches and minimum 24.17 feet above ground surface. Based on visual observation, the facility appears to be meeting this requirement. Measurements were not collected.

### **EUCRUSHER3**

SC II.1 and VI.1. **COMPLIANCE.** Metals processed shall not exceed 43,200 lbs per 12-hour period. Records were provided for November 1, 2019 through December 20, 2019. The highest 12-hour period metal processed occurred on December 13, 2019, 2019 at 41,757 lbs.

SC III.1 **COMPLIANCE.** Shall not operate unless a malfunction abatement plan as described in Rule 911(2) for the wet dust collection system has been submitted within 90 days of permit issuance and is implemented and maintained. A MAP was submitted. The MAP was revised after multiple iterations of AQD review and finalized on February 7, 2020.

SC IV.1. **COMPLIANCE.** Shall not operate unless the scrubber is installed, maintained, and operated in a satisfactory manner. The facility provided pressure drop readings within the specified range in the MAP. At this time, the facility appears to be meeting this requirement.

SC VI.2. **COMPLIANCE.** Shall keep record of all inspections and maintenance performed on the scrubber. The facility provided inspection and maintenance records for the scrubber.

SC VIII. **COMPLIANCE.** Exhaust gases to discharge unobstructed vertically upwards, with stack dimensions of maximum exhaust diameter of 23 inches and minimum 24.17 feet above ground surface. Based on visual observation, the facility appears to be meeting this requirement. Measurements were not collected.

### **EUCRUSHER4**

SC II.1 and VI.1. **COMPLIANCE.** Metals processed shall not exceed 43,200 lbs per 12-hour period. Records were provided for November 1, 2019 through December 20, 2019. The highest 12-hour period metal processed occurred on December 3, 2019, 2019 at 33,000 lbs.

SC III.1 **COMPLIANCE.** Shall not operate unless a malfunction abatement plan as described in Rule 911(2) for the wet dust collection system has been submitted within 90 days of permit issuance and is implemented and



maintained. A MAP was submitted. The MAP was revised after multiple iterations of AQD review and finalized on February 7, 2020.

SC IV.1. **COMPLIANCE.** Shall not operate unless the scrubber is installed, maintained, and operated in a satisfactory manner. The facility provided pressure drop readings within the specified range in the MAP. At this time, the facility appears to be meeting this requirement.

SC VI.2. **COMPLIANCE.** Shall keep record of all inspections and maintenance performed on the scrubber. The facility provided inspection and maintenance records for the scrubber.

SC VIII. **COMPLIANCE.** Exhaust gases to discharge unobstructed vertically upwards, with stack dimensions of maximum exhaust diameter of 23 inches and minimum 24.17 feet above ground surface. This crusher has been moved to Warehouse 4. The facility has submitted a permit application for the move.

### **FGFURNACES**

SC II.1 and VI.1. **COMPLIANCE.** Metals processed shall not exceed 53,760 lbs per 12-hour period. Records were provided for November 1, 2019 through December 20, 2019. The highest 12-hour period metal processed occurred on November 26, 2019 at 53,750 lbs.

SC III.1. **NOT IN COMPLIANCE.** Shall not operate unless a malfunction abatement plan as described in Rule 911(2) for the wet dust collection system has been submitted within 90 days of permit issuance and is implemented and maintained. A MAP was submitted. The MAP was revised after multiple iterations of AQD review and finalized on February 7, 2020. On December 10, 2019, the pressure drop reading was 1 inch water, which is outside of the range specified in approved MAP (2 inches to 6 inches water). The MAP specifies the following for out of range operations.

"If below the minimum acceptable gauge reading, call the Maintenance Department. Maintenance checks, as necessary, for improper operation of gauges, bag condition, excessive dust in the dust collector hopper, improper operation of dampers, improper operation of shaker cleaning system, damaged ductwork, high humidity in exhaust air. Determine what the problem is and repair it."

In addition, within Section 2 of the MAP AmeriTi states that "If AmeriTi's monitoring shows the APC [Air Pollution Control] operating parameter identified in this section falls outside of these operating ranges, AmeriTi will initiate reactive maintenance responses (see Section 7)" and, within Section 7, that "AmeriTi will maintain a record of the corrective 'response actions' taken when reactive maintenance response is required".

Maintenance records were provided for FGFURNACE. Within the records provided there are no maintenance activities for the out of range pressure drop reading on December 10, 2019. Therefore, the facility is not implementing and maintaining the MAP.

SC IV.1. **NOT IN COMPLIANCE.** Shall not operate unless the baghouse is installed, maintained, and operated in a satisfactory manner. The facility provided pressure drop readings for November through December 19, 2019. On December 10, 2019, the pressure drop reading was 1 inch water, which is out range specified in approved MAP. Based on the out of range pressure drop reading, and failure to provide maintenance activities documenting repair, the baghouse is not considered to be maintained and operated in a satisfactory manner.

SC VI.2. **NOT IN COMPLIANCE.** Shall keep record of all inspections and maintenance performed on the baghouse. The facility provided inspection and maintenance records for the scrubber. Within the records provided there are no maintenance activities for the out of range pressure drop reading on December 10, 2019.

SC VIII. **COMPLIANCE.** Exhaust gases to discharge unobstructed vertically upwards, with stack dimensions of maximum exhaust diameter of 50 inches and minimum 80 feet above ground surface. Based on visual observation, the facility appears to be meeting this requirement. Measurements were not collected.

### **Federal Requirements**

#### **40 CFR Part 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines**

According to information provided during the previous inspection, the engine was installed in September 2010

(manufactured date of June 2010). The specification sheet indicates a maximum power of 66.4 KW (89 horsepower).

60.4233(d) and 60.4233(e), 40 CFR Part 60, Subpart JJJJ, Table 1 - Owner/operator must comply with emission standards specified in this subpart. **COMPLIANCE.** The facility provided a USEPA Certificate of Conformity for the engine during the previous inspection.

40 CFR 60.4243(a)(2)(ii) – **COMPLIANCE** -To the extent practicable, must maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. The facility appears to meet this requirement.

40 CFR 60.4243(d) – **COMPLIANCE** - The emergency engine may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of the emergency engine in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operating, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

During the inspection on July 24, 2017, the hour meter read 209 hours. The engine was installed in September 2010. This equals to approximately 30 hours per year. The hour meter was not observed during the December 2019 inspection.

40 CFR 60.4243(e) – **COMPLIANCE** -Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of § 60.4233.

The engine is equipped with propane as a backup fuel. Emissions for firing propane are certified.

40 CFR 60.4237(b) – **COMPLIANCE** - Shall not operate the generator unless it is equipped with a functional non-resettable hour meter. The engine is equipped with a non-resettable hour meter.

40 CFR 60.4245(a) – **COMPLIANCE** - The permittee must keep records as outlined below.

- a. All notifications submitted to comply with 40 CFR Part 60, Subpart JJJJ and all documentation supporting any notification.
- b. Maintenance conducted on the engine.
- c. If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.
- d. If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to § 60.4243(a)(2), documentation that the engine meets the emission standards.

The emergency engine appears to meet the above requirements. As part of the previous inspection, the Certificate of Conformity, emissions data, and maintenance records were provided via email on August 21, 2017.

#### **40 CFR Part 63, Subpart ZZZZ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines**

Per 40 CFR 63.6590(c) and (c)(1), the emergency generator need only comply with the requirements of 40 CFR Part 60, Subpart JJJJ in order to satisfy the requirements of 40 CFR Part 63, Subpart ZZZZ.



**40 CFR Part 63, Subpart YYYYYY - National Emission Standards for Hazardous Air Pollutants for Area Sources: Ferroalloys Production Facilities**

The facility states that they are not subject to Subpart YYYYYY. The AQD is not the delegated authority for this regulation. Therefore, an evaluation was not conducted.

**40 CFR Part 63, Subpart ZZZZZZ – National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries**

Correspondence dated December 15, 2019 from AmeriTi's environmental consultant Impact Compliance and Testing (Impact) regarding questions about the facility PTI application, states the following.

"Pertaining to 40 CFR 63 Subpart ZZZZZZ (6Z), the investment casting operations performed in the Seven Mile facility primarily consist of billets casting. §63.11556 of Subpart 6Z defines other nonferrous foundry as "a facility that melts nonferrous metals other than aluminum, copper, or copper-based alloys and pours the nonferrous metals into molds to manufacture nonferrous metal castings (excluding die casting) that are complex shapes. For purposes of this subpart, this definition does not include primary or secondary metal producers that cast molten nonferrous metals to produce simple shapes such as sows, ingots, bars, robs, or billets."

The investment casting furnace operations at AmeriTi do not actively pour molten metal into a mold, the metal melts directly into the mold. Therefore, the investment casting operation at AmeriTi does not meet the definition of other nonferrous foundry, or any other definition in Subpart 6Z."

During a site visit on February 4, 2020, as part of the PTI application review (AQD staff – Michelle Rogers), the vacuum casting furnaces were observed. The furnaces are equipped with a crucible that holds melted 6-4 titanium. It appears that crucible then pours into the specified mold, whether billets or castings of specialized parts (nail pullers, gun scope mounts, etc.).

Per §63.1544(a)(3), a facility is subject to the Subpart ZZZZZZ, if the "other nonferrous foundry uses material containing other nonferrous foundry HAP, as defined in §63.1156."

§63.11544(a)(4) states that a facility is subject to Subpart ZZZZZZ if a "nonferrous foundry has an annual metal melt capacity (new affected sources) of at least 600 tons per year."

§63.1156 - *Material containing other nonferrous foundry HAP* means a material containing one or more other nonferrous foundry HAP. Any material that contains chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight (as the metal), as shown in formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet for the material, is considered to be a material containing other nonferrous foundry HAP.

Within PTI application correspondence dated December 15, 2019 from Impact, the SDS for 6-4 titanium was provided. The SDS indicates a chromium content of 0 to 18% by weight, which is greater than the threshold specified in §63.1156. Further correspondence provided on February 14, 2020 indicates that the chromium content for 6-4 titanium to be less than 0.1% by weight. Based on the revised SDS for 6-4 provided for the investment casting, it does not appear that the HAP content is greater than 0.1 percent by weight.

To be subject to Subpart ZZZZZZ, a foundry must meet the stipulations within both §63.11544(a)(3) and (4). According to SDS submitted by the facility, the chromium content within the 6-4 titanium is less than the threshold within §63.11544(a)(3), and therefore the facility is not currently subject to Subpart ZZZZZZ. The facility has agreed to limit material throughput to less than 600 tons per year through an enforceable material limit within the PTI that is currently under review (see attached correspondence). Doing so would allow the facility, in the future, to process material with a HAP content equal to or greater than 0.1% by weight and remain outside the applicability of Subpart ZZZZZZ.

**PERMIT TO INSTALL EXEMPT EQUIPMENT****Wastewater Treatment – Wash Building 1**

The wastewater treatment equipment at the facility is exempt from PTI requirements under the following Rule.

R336.1285(2)(m)(i): "The requirement to obtain a PTI does not apply lagoons and equipment primarily designed

to treat volatile organic compounds in process water, wastewater, or groundwater, unless emissions from the lagoons and equipment are released to the general in-plant environment."

#### **Drying Oven – Melt Shop**

The melt shop drying oven (400,000 Btu per hour) appears to be exempt from PTI requirements under the following Rule.

R336.1281(2)(e): "The requirement to obtain a PTI does not apply to equipment used for washing or drying materials, where the material itself cannot become an air contaminant, if no volatile organic compounds that have a vapor pressure greater than 0.1 millimeter of mercury at standard conditions are used in the process and no oil or solid fuel is burned."

#### **Emergency Engine – Melt Shop**

The emergency engine appears to be exempt from PTI requirements under the following Rule.

R336.1285(2)(g): "The requirement to obtain a PTI does not apply to internal combustion engines that less than 10,000,000 Btu/ hour maximum heat input."

The engine specification sheet provided indicates a fuel consumption rate at 100% load of 744 cubic feet per hour (cfh), which equates to 781,200 BTU/hr (744 cfh x 1,050 BTU/cf).

#### **Stationary Torch Cutting with Baghouse**

The stationary torch cutting operation with baghouse control appears to be exempt from PTI requirements under the following Rule.

R336.1285(2)(l)(vi)(C): "The requirement to obtain a PTI does not apply to the following equipment and any exhaust system or collector exclusively serving...equipment for...cutting...metals...equipment has externally vented emissions controlled by appropriately design and operated fabric filter."

In a letter dated November 13, 2003, the attached purchase order for the baghouse indicates that the baghouse is equipped with a "spark arresstance plenum with (30) removable baffle filters". This appears to meet the requirement of a "mechanical precleaner".

#### **Shot Blasting, cutting, grinding, torch cutting table with Dust Collection – 7 Mile Building**

The shot blasting unit (Wheelabrator), grinding, and cutting with baghouse controls appear to be exempt from PTI requirements under the following Rule.

R336.1285(2)(l)(vi)(C): "The requirement to obtain a PTI does not apply to the following equipment and any exhaust system or collector exclusively serving...equipment for...shot blasting...metals...equipment has externally vented emissions controlled by appropriately design and operated fabric filter."

The dust collection system for shot blasting operations is an ACT cartridge type dry dust collector (1500 cfm). According to the ACT website, for blasting operations, the ACT blasting dust collectors are equipped with "abrasion resistant plenums" which appears to meet the requirement of a "mechanical precleaner".

#### **Welding – 7 Mile Building**

The welding operations in the 7 Mile Building appears to be exempt from PTI requirements under the following Rule.

R336.1285(2)(i): "The requirement to obtain a PTI does not apply to brazing, soldering, welding, or plasma coating equipment".

#### **Briquetting Machines – Warehouse 5**

The briquetting operations in Warehouse 4 appear to be exempt from PTI requirements under the following Rule.

R336.1285(2)(l)(i): "The requirement to obtain a PTI does not apply to the following equipment and any exhaust system or collector exclusively serving equipment used exclusively for bending, forming, expanding, rolling, forging, pressing, drawing, stamping, spinning, or extruding either hot or cold metals."

#### **Pressurized Hydrogen Storage Tanks - HDH**

The pressurized hydrogen storage tanks associated with HDH operations appears to be exempt from PTI requirements under the following Rule.

R336.1284(2)(j): "The requirement to obtain a PTI does not apply to pressurized storage of ...hydrogen."

#### **CT-1 (Wash Building 1), CT-2 (Wash Building 2), and Cobble Crusher (TICO Building)**

The CT-1 (Wash Building 1), CT-2 (Wash Building 2), and Cobble Crusher (TICO Building) appear to be exempt from PTI requirements under the following Rule.

R336.1285(2)(l)(vi)(B): "The requirement to obtain a PTI does not apply to the following equipment and any exhaust system or collector exclusively serving...equipment for...cutting...metals...equipment that has emissions that are released only into the general in-plant environment."

#### **APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS**

Not Applicable. All lots are paved.

#### **MAERS**

The facility is currently not required to submit MAERS.

#### **FINAL COMPLIANCE DETERMINATION:**

At this time, the facility appears to be not in compliance with PTI 549-97A, FGFURNACES, SCs III.1, IV.1, and VI.2. A violation notice will be issued regarding these issues. The facility currently has a PTI application under AQD review for the unpermitted equipment in 7 Mile Building, equipment in the HDH Building, and the relocation of the crushers from the TICO Building to Warehouse 4.

NAME

DATE

9/23/20

SUPERVISOR

JK