



United States Environmental Protection Agency
Office of Enforcement and Compliance Assurance
Office of Criminal Enforcement, Forensics and Training

National Enforcement Investigations Center

NEIC

NEICVP1414E01

NEIC CIVIL INVESTIGATION REPORT

ATI Wah Chang
Albany, Oregon 97321

**EPA Region 10
Deemed Releasable**

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Investigation Dates:

May 24-28, 2021

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and provides a clear indication of the end of this report.**

INVESTIGATION OVERVIEW

PROJECT OBJECTIVE

U.S. Environmental Protection Agency (EPA) Region 10 (Region) requested EPA's National Enforcement Investigations Center (NEIC) to conduct a Resource Conservation and Recovery Act (RCRA) compliance investigation of ATI Wah Chang (ATI), located at 1600 Old Salem Road NE, Albany, Oregon. NEIC's investigation included:

- Conducting an on-site process-based compliance evaluation inspection with an emphasis on hazardous waste characterization and the management of potentially reactive wastes.
- Photographing and/or otherwise documenting site conditions at ATI Wah Chang.
- Reviewing documents at ATI Wah Chang, including hazardous waste characterization records, analytical results, and records of byproduct shipments to third parties, where available.

Table 1 lists the project team members.

Table 1. PROJECT TEAM MEMBERS		
Team Member	Organization	Project Role
Craig Lutz	NEIC	Project manager
Linda TeKrony	NEIC	Field team member
Brian Kennedy	NEIC	Field team member
Jeremy Deyoe	NEIC	Field team member

FACILITY CONTACT INFORMATION

Table 2 lists the primary facility contacts.

Table 2. FACILITY CONTACT INFORMATION		
Name, Title	Phone No.	Email Address
Lisa Metz-Dittmer, Director Environment, Health and Safety	(541) 905-3678	Lisa.Metz@ATIMetals.com
Michael Riley, Environmental Manager	(541) 990-9776	Michael.Riley@ATIMetals.com

FACILITY OVERVIEW

ATI is a manufacturer of specialty metals for the nuclear and aerospace industry. The primary products are zirconium and hafnium. ATI also makes niobium and titanium products. These metals, when in small particle size, will burn vigorously when ignited. The site is approximately 150 acres with 800 full time employees.

ATI (EPA ID No. ORD050955848) is a large quantity generator (LQG) of hazardous waste. The facility reported generating 3,847 tons of hazardous waste in its 2019 biennial report. The facility has a Super Fund site that has ongoing remediation.

On December 13, 2013, the facility entered into a consent decree with EPA that addressed the hazardous waste management of magnesium chloride, a reactive byproduct from the zirconium and hafnium production. The consent decree is still in effect.

On August 28, 2018, material from the zirconium reduction process that ATI was managing as nonhazardous waste ignited and started a fire. At the time, the material was stored at the Schmidt Lake Excavation Project pad (SLEP pad). After the fire, ATI started to manage the waste material from the reduction process as hazardous waste. In February 2019, ATI finalized a waste analysis plan (WAP) and started treating the waste in containers on-site to deactivate the waste. ATI has two other WAPs (implemented in 2016) that cover the treatment of waste in containers. One WAP covers the treatment of residues from crude chlorinators 17, 19, 21, and 24; carbon filter material associated with these chlorinators; and crude sublimer 23. The other WAP covers the treatment of other hazardous wastes from the chlorination process. These wastes include Thermax insulating material; residues from reactors 18, 20, 22 and 25; and residues from sublimers 1, 2, and 23.

According to the EPA Envirofacts database, this facility has the following North American Industry Classification System (NAICS) code (**Table 3**):

Table 3. APPLICABLE NAICS CODES	
NAICS Code	Description
331410	Nonferrous Metal (Except Aluminum) Smelting and Refining (ATI Wah Chang)

FACILITY OPERATIONS SUMMARY

ATI claimed some processes and operations as confidential business information (CBI). A facility operations summary is found in **Appendix A** and labeled as CBI.

NEIC performed the following activities to accomplish the investigation objectives:

- Met with facility personnel to discuss process operations, including waste acceptance/tracking, screening, and treatment/storage practices.
- Conducted walk-through tours of the facility to observe process operations, waste generation areas, and hazardous waste container accumulation areas
- The inspection team reviewed the following documents:
 - Waste profiles and analytical data for waste streams managed on-site

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- Waste analysis plans for wastes treated in containers on-site
 - Hazardous waste manifests from 2020 and 2021
 - Analytical data for outgoing waste streams shipped off-site for disposal
 - Contingency plan

A list of documents NEIC received while on-site is found in **Appendix B**.

INVESTIGATION OBSERVATIONS

NEIC identified the following observations during the RCRA compliance inspection. NEIC field team members discussed all observations with facility representatives during the closeout meeting. According to Oregon Administrative Rules (OAR), Oregon has adopted the RCRA Subtitle C Code of Federal Regulations (CFRs) by reference.

OAR 340-100-0002 Adoption of United States Environmental Protection Agency Hazardous Waste and Used Oil Management Regulations

(1) Except as otherwise modified or specified by OAR 340, divisions 100 to 106, 109, 111, 113, 120, 124 and 142, the Commission adopts by reference, and requires every person subject to ORS 466.005 to 466.080 and 466.090 to 466.215, to comply with the rules and regulations governing the management of hazardous waste, including its generation, transportation, treatment, storage, recycling and disposal, as the United States Environmental Protection Agency prescribes in 40 C.F.R. Parts 260 to 268, 270, 273 and Subpart A and Subpart B of Part 124, as enacted through June 30, 2015, except as modified below in sections (2), (3) and (4).

The federal citations are incorporated into this report. At the time of the inspection, the Oregon Department of Environmental Quality (ODEQ) had not adopted the generator improvement rules updates to 40 CFR § 262. The report cites the federal regulations that were in place at the time of ODEQ adoption as approved by EPA.

These observations are not final compliance determinations. EPA Region 10 will make the final compliance determinations based on its review of this report and other technical, regulatory, and facility information.

Observation: RCRA 1
Observation Summary: ATI treated hazardous waste in skull pots (containers) without a permit. The containers were open during treatment and not meeting the permit exemption requirements for a large quantity generator of hazardous waste.
Citation: 40 CFR § 270.1 <i>(b) Overview of the RCRA Permit Program. Not later than 90 days after the promulgation or revision of regulations in 40 CFR part 261 identifying and listing hazardous wastes) generators and transporters of hazardous waste, and owners or operators of hazardous waste treatment, storage, or disposal facilities may be required to file a notification of that activity under section 3010. Six months after the initial promulgation of the part 261 regulations, treatment, storage, or disposal of hazardous waste by any person who has not applied for or received a RCRA permit is prohibited.</i> 40 CFR § 262.34 [40 CFR § 262.17] Accumulation time.

Observation: RCRA 1

(a) Except as provided in paragraphs (d), (e), and (f) of this section, a generator may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, provided that:

(1) The waste is placed:

(i) In containers and the generator complies with the applicable requirements of subparts I, AA, BB, and CC of 40 CFR part 265;

40 CFR Part 265, Subpart I, § 265.173 [40 CFR § 262.17(1)(iv)] Management of containers.

(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

Evidence:

Appendix C – Federal Register 51 3-24-1986

Appendix D – Waste Analysis Plan for Skull Pot Deactivation

Appendix E –Photographs

Appendix F –CBI Photographs

Description of Observation:

Generators of hazardous waste may treat hazardous waste in containers without a permit if the containers follow 40 CFR § 262.34, which references the container requirements in 40 CFR § 265, Subpart I. This is not specifically addressed in the regulations, but EPA published that this was allowed in the *Federal Register* (FR) notice promulgating the small quantity generator regulations in 1986 (**Appendix C**). According to 40 CFR § 265.173 of Subpart I, containers must be closed at all times except to add or remove waste. To treat hazardous waste without a permit, containers are required to comply with this regulation.

After the 2018 fire on the SLEP pad, ATI developed a WAP, dated February 20, 2019, to start treating the D001 ignitable and D003 reactive waste on-site (**Appendix D**) to deactivate it. As documented in Section 2.2 of the WAP, deactivation treatment is conducted in two steps.

Step 1 – Water leaching. ATI adds water to the wastes contained in the skull pots to react with the magnesium metal to form magnesium hydroxide. Heat and hydrogen gas are generated.

Step 2 – Acid leaching. Hydrochloric acid is added to convert remaining magnesium metal to magnesium chloride. This step also generates heat and hydrogen gas. During treatment, ATI mixes the material in the skull pots by air sparging.

After the first two steps, ATI considers the waste deactivated. The waste is dewatered to the wastewater treatment system, and samples of the solids are collected from every batch. The samples are sent to an off-site laboratory to confirm that the waste is not reactive. The nonhazardous solids are sent to the SLEP pad, where the waste is mixed with concrete and disposed of as nonhazardous waste.

For safety reasons, both steps are conducted with the skull pots open to the atmosphere because of the generation of heat and flammable hydrogen gas. NEIC inspectors observed treatment taking place with the skull pots open to the atmosphere (**Appendix E**, photo 11, and **Appendix F**, photo 31 [CBI]). The skull pot with the yellow label shown in the rear of **Appendix E**, photo 11, is air-sparged so hard that the liquid is overflowing the container.

Observation: RCRA 1

During treatment, these containers are not meeting the closed container permit exemptions of 40 CFR § 265.173.

Following the inspection, ATI submitted a response dated June 11, 2021, regarding the uncovered containers during treatment (**Appendix G**). ATI does not believe that 40 CFR § 265, Subpart I, prohibits the treatment of waste in open containers because representatives stated that they believe that storage and treatment are two distinct activities. Their first argument references 40 CFR § 265, Subpart CC, where containers undergoing stabilization can comply with level 3 controls. Level 3 controls require venting to a control device, which ATI is not doing. ATI also references guidances from the Ohio Environmental Protection Agency (Ohio EPA) (**Appendix H**) and the Indiana Department of Environmental Management (IDEM) (**Appendix I**) that allow, in those states, treatment in open containers without a permit. ATI believes that because these states allow it, EPA and ODEQ also allow treatment in open containers without a permit. An ATI email with the response and all attachments is included as **Appendix J**.

Treating waste in open skull pots was noted as a potential violation in the last ODEQ inspection conducted on March 6-8, 2019 (**Appendix K**, page 8).

Observation: RCRA 2

Observation Summary: ATI treated hazardous waste in a paddle mixer (container) without a permit. The container is open during treatment and not meeting the permit exemption requirements for an LQG.

Citation:**40 CFR § 270.1**

(b) Overview of the RCRA Permit Program. Not later than 90 days after the promulgation or revision of regulations in 40 CFR part 261 identifying and listing hazardous wastes) generators and transporters of hazardous waste, and owners or operators of hazardous waste treatment, storage, or disposal facilities may be required to file a notification of that activity under section 3010. Six months after the initial promulgation of the part 261 regulations, treatment, storage, or disposal of hazardous waste by any person who has not applied for or received a RCRA permit is prohibited.

40 CFR § 262.34 [40 CFR § 262.17] Accumulation time.

(a) Except as provided in paragraphs (d), (e), and (f) of this section, a generator may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, provided that:

(1) The waste is placed:

(i) In containers and the generator complies with the applicable requirements of subparts I, AA, BB, and CC of 40 CFR part 265;

40 CFR Part 265, Subpart I, §265.173 [40 CFR § 262.17(1)(iv)] Management of containers.

(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

Evidence:

Appendix C – Federal Register 51 3-24-1986

Appendix E – Photographs

Appendix L – Waste Analysis Plan for Paddle Mixer

Description of Observation:

Generators of hazardous waste can treat hazardous waste in containers without a permit if the containers follow 40 CFR § 262.34, which references the container requirements in 40 CFR § 265, Subpart I. This is not specifically addressed in the regulations, but EPA published that this was allowed in the *Federal Register* notice promulgating the small quantity generator regulations in 1986 (**Appendix C**). According to 40 CFR § 265.173 of Subpart I, containers must be closed at all times except to add or remove waste. To treat hazardous waste without a permit, containers are required to comply with this regulation.

ATI developed a WAP, dated June 22, 2016, to treat hazardous waste streams generated by the facility using solidification (**Appendix L**). The wastes covered by the WAP are found in Section 1(b) but include the following.

Waste	Description	EPA Hazardous Waste Code(s)
Thermax	Contaminated insulating material from chlorination vessels. Material is replaced when the reactors are rebuilt.	D003, D007, and D008
Reactor/sublimers residues in pure chlorination	From reactors 18, 20, 22, and 24 and sublimers 1, 2, and 23.	D007 and D008
Pickle slab sump solids	Solids collected in the trenches and sumps of the pickle slab area from cleaning crucibles	D001 and D003
Deactivated solids from wet room treatment	Wastes generated during the decommissioning of the tetrachloride process.	D003

The goals of the treatment in the paddle mixer are to:

- (1) React the waste with water to remove potential reactivity (D003) characteristic,
- (2) Solidify the waste to remove the ignitable (D001) and toxic (D007, D008) characteristics, and
- (3) Through treatment, meet the Land Disposal Restriction (LDR) treatment standards so that the waste can be disposed of in a RCRA Subtitle D (nonhazardous) landfill.

During treatment, these containers are not meeting the closed container permit exemptions of 40 CFR § 265.173.

The paddle mixer is an open-top container (**Appendix E**, photo 36). ATI considers the paddle mixer to be a container because the feet are not attached to the floor (**Appendix E**, photo 37), and ATI can move it with a forklift.

The treatment steps in the WAP starts with dumping a container of waste into the top of the tub of the paddle mixer. Soda and magnesium oxide are added in quantities based on the weight of the waste. At least one Super Sack® (1,129 pounds) of cement is added. The dry contents are mixed. Water is added in an amount that is determined by the operator to achieve the desired consistency. The paddle mixer remains on until the operator visually confirms that the reaction to deactivate the waste has stopped (i.e., no vapors, fumes, or bubbles are visible). The contents of the paddle mixer are transferred to flexible intermediate bulk containers to continue to solidify. The top of the paddle mixer is open to the

atmosphere during treatment and does not meet the closed container requirements of 40 CFR § 265.173, so it does not meet all the permit exemption requirements.

Following the inspection, ATI submitted a response, dated June 11, 2021, regarding the uncovered containers during treatment (**Appendix G**). ATI does not believe that 40 CFR § 265, Subpart I, prohibits the treatment of waste in open containers because representatives stated that they believe that storage and treatment are two distinct activities. Their first argument references 40 CFR § 265, Subpart CC, where containers undergoing stabilization can comply with level 3 controls. Level 3 controls require venting to a control device, which ATI is not doing. ATI also references guidances from Ohio EPA (**Appendix H**) and (IDEM (**Appendix I**) that allow, in those states, treatment in open containers without a permit. ATI believes that because these states allow it, EPA and ODEQ also allow treatment in open containers without a permit. An ATI email with the response and all attachments is included as **Appendix J**.

Observation: RCRA 3

Observation Summary: Five land disposal restriction notifications did not include all of the EPA hazardous waste codes listed on the manifest.

Citation:

40 CFR § 268.7(a)(2)

If the waste or contaminated soil does not meet the treatment standards, or if the generator chooses not to make the determination of whether his waste must be treated, with the initial shipment of waste to each treatment or storage facility, the generator must send a one-time written notice to each treatment or storage facility receiving the waste, and place a copy in the file. The notice must include the information in column “268.7(a)(2)” of the Generator Paperwork Requirements Table in paragraph (a)(4) of this section. (Alternatively, if the generator chooses not to make the determination of whether the waste must be treated, the notification must include the EPA Hazardous Waste Numbers and Manifest Number of the first shipment and must state “This hazardous waste may or may not be subject to the LDR treatment standards. The treatment facility must make the determination.”) No further notification is necessary until such time that the waste or facility change, in which case a new notification must be sent, and a copy placed in the generator’s file.

Evidence:

Appendix M – Manifests and Associated Land Disposal Restriction Notifications

Description of Observation:

The LDR notification for manifest 014447541FLE (**Appendix M**, page 1) did not contain the waste codes that were listed on the manifest. The waste codes listed on the manifest are D002, D004, D006, D007, D008, and D010.

Four land disposal restriction notifications did not include all of the EPA hazardous waste codes listed on the manifest. The manifest numbers are: 014487819FLE (**Appendix M**, page 7), 015502311FLE (**Appendix M**, page 13), 015501930FLE (**Appendix M**, page 20), and 014447601FLE (**Appendix M**, page 28). The waste codes listed on the manifest for the methyl isobutyl ketone (MIBK) still bottoms are: D001, D007, D033, and D034. The LDR notifications associated with these manifests list only waste codes D001 and D007.

Observation: RCRA 4

Observation Summary: One manifest did not have an associated LDR notification.

Observation: RCRA 4**Citation:****40 CFR § 268.7(a)(2)**

If the waste or contaminated soil does not meet the treatment standards, or if the generator chooses not to make the determination of whether his waste must be treated, with the initial shipment of waste to each treatment or storage facility, the generator must send a one-time written notice to each treatment or storage facility receiving the waste, and place a copy in the file. The notice must include the information in column “268.7(a)(2)” of the Generator Paperwork Requirements Table in paragraph (a)(4) of this section. (Alternatively, if the generator chooses not to make the determination of whether the waste must be treated, the notification must include the EPA Hazardous Waste Numbers and Manifest Number of the first shipment and must state “This hazardous waste may or may not be subject to the LDR treatment standards. The treatment facility must make the determination.”) No further notification is necessary until such time that the waste or facility change, in which case a new notification must be sent and a copy placed in the generator’s file.

Evidence:

Appendix M – Manifests and Associated Land Disposal Restriction Notifications

Description of Observation:

One manifest (014447439FLE) (**Appendix M**, page 5) did not have an associated LDR notification. On May 28, 2021, Kali Dresser, ATI environmental health and safety senior leader, stated that the facility includes an LDR notification with every manifest used to shipped hazardous waste off-site.

Observation: RCRA 5

Observation Summary: Bottoms from the MIBK solvent still were not assigned the F003 hazardous waste code.

Citation:**40 CFR § 262.11**

A person who generates a solid waste, as defined in 40 CFR 261.2, must determine if that waste is a hazardous waste using the following method:

- (a) He should first determine if the waste is excluded from regulation under 40 CFR 261.4.*
- (b) He must then determine if the waste is listed as a hazardous waste in subpart D of 40 CFR part 261.*

40 CFR § 261.31(a)

The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under §§260.20 and 260.22 and listed in appendix IX.

Observation: RCRA 5		
Industry and EPA Hazardous Waste No.	Hazardous Waste	Hazard Code
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I)*
Evidence: Appendix E – Photographs Appendix F – CBI Photographs Appendix J – ATI Millersburg Follow-up		
Description of Observation: The separations process uses liquid-liquid extraction with MIBK solvent to separate zirconium tetrachloride from hafnium tetrachloride. Spent MIBK is removed from the process by steam stripping. The MIBK-water mixture from steam stripping is sent to a solvent pot, where water and solvent phases separate. Free MIBK is sent to a solvent still and recycled back into the separations process, while still bottoms are managed as hazardous waste. ATI’s 2017 and 2019 biennial waste reports list the generation of “methyl isobutyl ketone still bottoms” as D001, D007, D033, and D034 hazardous waste. During the inspection on May 24, 2021, ATI personnel indicated MIBK still bottoms were characterized as D001, D007, D033, and D034 hazardous waste. During the inspection on May 25, 2021, two 55-gallon drums of hazardous waste MIBK still bottoms were observed near the MIBK solvent still. The drums were labeled as hazardous waste and “flammable liquid” (Appendix E, photograph 10, and Appendix F, photograph 8). On June 7, 2021, ATI personnel collected a sample of MIBK still bottoms and submitted it for analysis at Specialty Analytical laboratories. The results, dated June 11, 2021, did not exhibit the D001, D007, D033, or D034 hazardous waste characteristics (Appendix J). In a June 11, 2021, email, ATI personnel indicated that because the still bottoms no longer exhibited the D001 characteristic, the F003 listing no longer applied to the MIBK still bottoms per 40 CFR § 261.3(g). ATI did not specify how the MIBK still bottom sample was collected or handled prior to analysis or if it was representative of the waste as a whole.		
Observation: RCRA 6		
Observation Summary: Failure to make an accurate hazardous waste determination for one or more waste streams from the zirconium reduction process may have directly led to a fire that spread inside and outside the facility.		
Citation:		

Observation: RCRA 6**40 CFR § 262.11**

A person who generates a solid waste, as defined in 40 CFR 261.2, must determine if that waste is a hazardous waste using the following method:

- (a) He should first determine if the waste is excluded from regulation under 40 CFR 261.4.*
- (b) He must then determine if the waste is listed as a hazardous waste in subpart D of 40 CFR part 261.*
- (c) For the purposes of compliance with 40 CFR part 268, or if the waste is not listed in subpart D of 40 CFR part 261, the generator must then determine whether the waste is identified in subpart C of 40 CFR part 261 by either:*
 - (1) Testing the waste according to the methods set forth in subpart C of 40 CFR part 261, or according to an equivalent method approved by the Administrator under 40 CFR 260.21; or*
 - (2) Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.*

40 CFR §§ 261.23(a)(3)-(4)

A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

- (3) It forms potentially explosive mixtures with water.*
- (4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.*

Evidence:

Appendix N – OERS Spill-Release Report No. 2018-1984

Appendix D – Waste Analysis Plan for Skull Pot Deactivation

Description of Observation:

Before it instituted the skull pot hazardous waste treatment process, ATI would accumulate waste “zirconium stills burnt floor sweeps,” “assembly crucible scale/floor sweeps (iron scale),” and “burnt oxide” from the zirconium reduction process areas and send them to the outdoor SLEP pad. ATI managed these materials as nonhazardous waste and co-mingled them in waste piles on the pad. A nearby cement mixer was then used to encapsulate the waste before disposal off-site. ATI does not have a permit to manage hazardous waste in waste piles.

On August 28, 2018, a pile of waste ignited on the SLEP pad while the pile was being moved with an excavator. The pile fire emitted sparks and embers onto a nearby debris pile of wooden material, fiberglass, and rubber tires and an adjacent vacant vegetated area beyond the pad. The initial fire within the waste pile dissipated without fire suppression, but the sparks/embers that were emitted created two separate fires at the debris pile on the pad and the adjacent vegetated area. In a supplemental response to the Oregon Emergency Response System (OERS) spill/release report (OERS No. 2018-1984), ATI stated the cause of the fire was likely due to the presence of unpassivated zirconium or magnesium materials that had inadvertently been mixed with routine waste prior to placement on the SLEP pad (**Appendix N**). The response further states, “antecedent precipitation may have resulted in hydrogen gas being produced by the unpassivated material as it became damp or wet, that when disturbed

Observation: RCRA 6

by the excavator bucket created sparks that ignited the gas, leading to the fire, and subsequent response.”

After the fire, ATI collected samples of the two waste piles that were present on the SLEP pad the day of the fire. Pile #1, which is believed to have initiated the fire, was spread into a thin layer on the pad to examine its contents and to minimize the potential for additional unpassivated metals to create a fire hazard. Five grab samples were collected from the spread contents of Pile #1 and analyzed at ATI’s on-site laboratory following modified EPA Method 1030 (Ignitability of Solids) and International Air Transport Association (IATA) 3.4.3/United Nations (U.N.) Test N.5 (Water Reactive Substances – Flammable Gas Evolution). The results, enclosed with the OERS report, do not indicate the waste exhibited D001 or D003 hazardous waste characteristics. These test results, however, represent properties of the waste after the fire and not necessarily at the point of waste generation, and they do not represent an accurate waste determination. It is possible the fire itself inactivated the D001 or D003 characteristics that may have been properties of the waste at the point of generation.

In response to the fire, ATI began managing certain zirconium reduction waste streams as D001 and D003 hazardous wastes and instituted the skull pot process to treat these wastes prior to placement on the SLEP pad. In the skull pot WAP, dated February 20, 2019, the waste streams are described as “dry magnesium, magnesium chloride, zirconium metal, wet sump cleanout, and other floor sweeps” (**Appendix D**). The skull pot process is intended to deactivate the potential D001 and D003 characteristics of the zirconium reduction wastes by submitting them to a series of water and acid-leaching steps followed by ignitability testing. After the wastes have gone through the skull pot process, they are moved to the SLEP pad and encapsulated in cement before off-site disposal.

Observation: RCRA 7

Observation Summary: A hazardous waste container for slag generated in the thermite manufacturing area was not completely covered.

Citation:**40 CFR § 270.1**

(b) Overview of the RCRA Permit Program. Not later than 90 days after the promulgation or revision of regulations in 40 CFR part 261 identifying and listing hazardous wastes) generators and transporters of hazardous waste, and owners or operators of hazardous waste treatment, storage, or disposal facilities may be required to file a notification of that activity under section 3010. Six months after the initial promulgation of the part 261 regulations, treatment, storage, or disposal of hazardous waste by any person who has not applied for or received a RCRA permit is prohibited.

40 CFR § 262.34 [40 CFR § 262.17] Accumulation time.

(a) Except as provided in paragraphs (d), (e), and (f) of this section, a generator may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, provided that:

(1) The waste is placed:

Observation: RCRA 7

(i) In containers and the generator complies with the applicable requirements of subparts I, AA, BB, and CC of 40 CFR part 265;

40 CFR Part 265, Subpart I, § 265.173 [40 CFR § 262.17(1)(iv)] Management of containers.

(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

Evidence:

Appendix E – Photographs

Description of Observation:

In the thermite manufacturing area, there is a container of hazardous waste containing hazardous waste slag (**Appendix E**, photos 15 and 17). At the time of the inspection, the container was covered by plastic with an elastic edge. A spout located on one end was used to empty the container. The plastic covering did not completely cover the spout (**Appendix E**, photo 17). According to 40 CFR § 265.173 of Subpart I, containers must be closed at all times except to add or remove waste.

ATI has stated that this was discussed in a past ODEQ hazardous waste inspection in 2019 (**Appendix K**). The report only states, on page 4, that hazardous waste containers with the covers were observed, and a photograph (page 14, photo 26) of one of the slag containers was taken. Nothing in the report indicates that the current cover is sufficient.

Observation: RCRA 8

Observation Summary: ATI was unable to provide waste analysis data to document that treated residues from the following on-site treatment in container processes met LDR treatment standards before disposal.

- Waste analysis plan for skull pot deactivation
- Waste analysis plan for paddle mixer
- Waste analysis plan for zirconium extraction residue

Citation:

40 CFR § 268.7 – Testing, tracking, and recordkeeping requirements for generators, treaters, and disposal facilities.

(a) Requirements for generators:

(8)Generators must retain on-site a copy of all notices, certifications, waste analysis data, and other documentation produced pursuant to this section for at least three years from the date that the waste that is the subject of such documentation was last sent to on-site or off-site treatment, storage, or disposal. The three-year record retention period is automatically extended during any unresolved enforcement action regarding the regulated activity or as requested by the Administrator. The requirements of this paragraph apply to solid wastes even when the hazardous characteristic is removed prior to disposal, or when the waste is excluded from the definition of hazardous or solid waste under 40 CFR 261.2 through 261.6, or exempted from Subtitle C regulation, subsequent to the point of generation.

Evidence:

Appendix D – Waste Analysis Plan for Skull Pot Deactivation

Appendix L – Waste Analysis Plan for Paddle Mixer

Observation: RCRA 8**Appendix O** – Waste Analysis Plan for Zirconium Extraction**Appendix P** – ATI Millersburg NEIC Inspection Response**Description of Observation:**

ATI developed WAPs for treating wastes on-site to meet the LDR standards of 40 CFR § 268.40. The WAPs that contain sample and analysis requirements to document the treated waste meet the LDR treatment standards. During the inspection, NEIC requested records containing the waste analysis data for the last 3 years that demonstrated ATI's compliance with the LDR treatment standards. At the time of the inspection, ATI could not locate the waste analysis data for the following WAPs:

- Skull pot deactivation (**Appendix D**)
- Paddle mixer (**Appendix L**)
- Zirconium extraction residue (**Appendix O**)

On June 11, 2021, ATI submitted a response (**Appendix P**, paragraph 5) stating that "ATI has been unsuccessful in retrieving analytical result for the confirmation sampling for the last 3 years."

Observation: RCRA 9

Observation Summary: The WAP that ATI developed for treating waste skull pot waste on-site does not specify a testing frequency after 2019 to determine if the treated waste is meeting the LDR treatment standards.

Citation:**40 CFR § 268.7(a)(5)**

If a generator is managing and treating prohibited waste or contaminated soil in tanks, containers, or containment buildings regulated under 40 CFR 262.34 to meet applicable LDR treatment standards found at §268.40, the generator must develop and follow a written waste analysis plan which describes the procedures they will carry out to comply with the treatment standards. (Generators treating hazardous debris under the alternative treatment standards of Table 1, §268.45, however, are not subject to these waste analysis requirements.) The plan must be kept on site in the generator's records, and the following requirements must be met

(i) The waste analysis plan must be based on a detailed chemical and physical analysis of a representative sample of the prohibited waste(s) being treated, and contain all information necessary to treat the waste(s) in accordance with the requirements of this part, including the selected testing frequency.

Evidence:**Appendix D** – Waste Analysis Plan for Skull Pot Deactivation**Description of Observation:**

Generators that treat waste in containers to comply with the LDR requirements must have a test frequency in the WAP to demonstrate compliance with treatment standards.

The WAP for the deactivation of the skull pot materials states that a sample from the treated skull pot waste will be collected once a quarter during calendar year 2019. The WAP does not specify a sampling frequency after 2019 (**Appendix D**, Section 4.3).