ATI Specialty Alloys & Components

July 9, 2026

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Sent Electronically via YDO

Dear Amy Devita-McBride

This letter summarizes our responses to your May 28, 2026 letter providing comments on the first, second and third partial inventory submissions for Cleaner Air Oregon (CAO). The comments provided in your March 28th letter are provided below followed by ATI's response.

General Comments

1. Toxic Emission Units (TEUs) in the Inventory must match the Emission Units (EUs) in ATI's Title V Operating Permit (permit) where appropriate. To reduce confusion and aid in the CAO review process, ensure consistency in EU/TEU/TESU naming between the permit (when applicable), Inventory, and other supporting materials, especially with respect to the use of spaces, underscores, and hyphens/dashes. As an example, ATI has an Aggregate Insignificant EU in their Title V permit with an EU ID of "AI." This EU is also a TEU and it is therefore included in the Inventory where the TEU ID is listed as both "EU-AI" and "EU_AI" in different instances, while "EU AI" is used in the process flow diagram.

   ATI Response: ATI has reviewed the AQ520, the supporting calculations and the process flow diagram and has adjusted the naming conventions to be consistent throughout. Emission units will be labeled with underscores, such as EU_AI and TESU's will be labeled as S## for point sources and B## for fugitive sources based on their relative building locations Emergency generators in the EU EG will be defined as EG_##.

2. ATI should not add supplemental worksheets to the AQ520 Inventory Form. Supporting calculations necessary for a review of the Inventory must still be submitted to DEQ but should be supplied as a separate workbook.

   ATI has adjusted the AQ520 to just include the inventory form and provided an additional workbook for the supporting calculations.

3. Ensure references included in the AQ520 form (Column L of Worksheet 3 and Column K of Worksheet 5) are sufficiently descriptive to describe how the emission factors and/or emission estimates were developed. The reference should include the following as appropriate: reference for emission factor or emissions calculation methodology (sufficient for the reviewer to find the referenced document); capture efficiency reference(s); destruction and removal efficiency reference(s); source/method of TAC speciation; and any other relevant assumptions incorporated. For some complicated emission calculations (such as evaporative loss from tanks), it may not be feasible to include a full description of the emissions methodology and references for all chemical parameters used to develop the emission estimates, but a general description is expected. DEQ has addressed requested updates in the "Specific Comments" section.

ATI Response: ATI has done a thorough review of the references and adjusted them to be descriptive of the calculation methodology within the AQ520 and supporting calculations.

Specific Comments

1. **Alloy Production**: Provide an estimate of the total production for ATI's PTE basis for each alloy. ATI has provided SDSs for 6 alloys produced and processed at the facility. Review of this information shows that the metal TAC content of these alloys varies widely. Therefore, understanding the alloy production profile will help DEQ assess the applicability of reference TAC speciation profiles where site specific data is not available.

   ATI response: ATI has estimated relative alloy production percentages in Table 1 below based on 2025 invoicing data. ATI's alloy production is customer driven and the amount of processing, i.e., blasting or grinding, a particular alloy can receive will vary. A "PTE Basis" cannot be provided at this time and thus far our inventory is not relying on metal alloy production-based emission factors. We understand this may change as the EI is further developed.

Table 1: 2025 Alloy Group Productions

Alloy groups	SDS	Percent of Total 2025 Production
Hafnium	ATI_Hafnium Alloys SDS.pdf	0.88%
Nickel Titanium	ATI_Nickel-Titanium Alloys SDS.PDF	3.28%
Niobium Titanium	ATI_Niobium-Titanium Alloys SDS.PDF	16.93%
Titanium	ATI Titanium and Titanium Alloys SDS.pdf	17.81%
Vanadium	ATI Vanadium Alloys SDS.PDF	0.12%
Zirconium	ATI Zirconium and Zirconium Alloys.pdf	60.99%
Grand Total		100.00%

2. **Process Flow Diagram (PFD)**:
   a. The TESU/Stack ID for the EU-2 Ammonia Recovery Lime Silo on the Chemical Operations Process PFD (S48) differs from that in the Inventory (S146). Review and revise as appropriate.

      ATI response: The PFD has been edited to match the inventory as S146 for the TESU ID for the Ammonia Recovery Lime Silo.

   b. The Fabrication Process PFD assigns a TESU/Stack ID of S30 for the EU-4 "BL09 BH." This is the same TESU/Stack ID assigned to the EU-06 Thermite TESU. Ensure that there are no duplicate identifiers for independent activities. Review and revise as appropriate.

ATI response: ATI has updated the PFDs as appropriate. The BL09 BH was mistakenly included on the PFD as S30. The BL09 BH is another name for the baghouse which controls the extrusion press blasting operation S71_2.

3. **Safety Data Sheets**: DEQ reviewed the safety data sheets (SDSs) noted in Column I of the "Emission Inventory Part 3 Submittal List.xlsx" workbook. Based on this review, DEQ has the following additional data needs.

    a. Confirm that the "SDS_Coke.pdf" file is the correct SDS for the petroleum coke material as the SDS names the product as activated carbon.

    ATI response: This is confirmed as the correct pdf for that material.

    b. Provide a copy of the SDS for the C103 Niobium alloy processed at the Powder Met Baghouse (EU-6).

    ATI Response: This is included in the updated submission titled SDS_C103 Alloy sent to Powder Met Baghouse.pdf

4. **Pollution Control Devices**:

    a. Provide a summary table of the pollution control devices included in the Inventory to date which includes the following information:
        i. Control device ID;
        ii. Process controlled. Include TEU and/or TESU IDs;
        iii. Control device type (such as baghouse or scrubber);
        iv. Control device manufacturer;
        v. Control device installation date. Include dates of any modifications;
        vi. Air flow rate (acfm);
        vii. Pollutant controlled and removal efficiency;
        viii. Filter information (for baghouses); and
        ix. Date of last source test.

    ATI response: ATI has responded by providing a pollution control devices table with the above information included.

    b. Provide references for all removal efficiencies used in the Inventory. Provide documentation from manufacturers to support these removal efficiencies (including design filter and/or design specifications).

    ATI response: ATI has included this information in the pollution control device table mentioned above.

    c. Permanently offline baghouses: In the submittal to DEQ on April 8, 2026, ATI indicated that many of the baghouses in their current permit are no longer operating. Please provide copies of submittals and/or related approvals documenting the facility changes associated with removal of permitted baghouses.

    ATI response: ATI has provided a zip folder containing submittals for facility changes where appropriate. An Excel document is also provided to identify which submittal corresponds to the facility change. Submittals for all facility changes are not available

because their disposition as being a permanently offline asset is being determined as part of this emission inventory development. For these assets ATI suggests their formal removal from the air permit take place with ATI's permit renewal. Please note that the Micro Grind process that was planned to be included in ATEI Part 4 has been added to the "Permanently Offline" list.

5. **Metals Acid Cleaning (TEU EU-12, TESUs B42 and S42)**:
    a. Update the partial pressure for hydrogen fluoride (CASRN 7664-39-3). For solution compositions which are not presented in the tables, ATI may either extrapolate between the available data or assume conservative partial pressures from the available data.

    ATI response: These have been updated in the supporting calculations document assuming conservative partial pressure at 25 degrees C and 6.02 wt% of HF from the available data rather than extrapolating from the site data.

    b. Confirm the tank composition of tank A2. The tank contents are listed as "Zr Acid Mix" but composition for "SPO Acid Mix" is used in the tank calculations.

    ATI response: The composition of tank A2 is the Zr Acid mix. The tank calculations have been adjusted in the supporting calculations.

6. **Thermite (TEU EU-06, TESU S30)**:
    a. Provide additional details on the development of ATI's emission factor for the thermite process.

    ATI response: The emission factor for ATI's process is based on lbs processed in the thermite material handling. This is an established emission factor in the permit but ATI has not been able to locate documentation supporting the rate. We have revised the emission factor to be a grain loading rate to the baghouse based on the combined flow of air that is processed in the baghouse. We are using a 0.002 gr/dscf which is based on an EPA fact sheet for pulse jet baghouses[1] , and Source Test 4 referenced in the blasting baghouse information. With this emission factor, ATI is using a combined airflow of 28,190 ACFM from the combustible and non combustible side of this baghouse. ATI has confirmed that the same percentage mixtures are processed in each side of the baghouse and they share a common stack.

    b. Revise the calculation of weight percentage of barium (CASRN 7440-39-3) in barium oxide (CASRN 1304-28-5) used in the "06_Thermite" worksheet added to the AQ520 form. Barium (atomic weight of 137.33) accounts for approximately 89.6 percent of the weight of a molecule of barium oxide (molecular wight of 153.33).

    ATI response: ATI has adjusted the calculation of weight percentage for barium to take up 89.6 percent of the total weight of barium oxide.

7. **Gasoline Dispensing Facility (TEU EU_GDF)**: DEQ has reviewed the "Horizontal tank" worksheet included in the AQ520 and has the following comments to be addressed:
    a. Vent setting correction factor (K_B), Row 66: Based on information presented elsewhere in the calculations, the breather vent settings are within ± 0.03 psig (see cell D32) and per notes for equation 1-37, K_B should be 1.[2] If the breather vent settings are greater than ±

[1] U.S. Environmental Protection Agency. (2003). *Fabric filter – Pulse-jet cleaned type (baghouses)* (EPA-452/F-03-025). U.S. Environmental Protection Agency. https://www.epa.gov/sites/default/files/2020-10/documents/ff-pulse.pdf
[2] EPA. September 2025. AP-42 Chapter 7.1, Section 7.1.3.1 "Routine Losses From Fixed Roof Tanks."

0.03 psig, address the necessary changes elsewhere in the calculations; and

ATI Response. The formula in the supporting calculations has been adjusted in row 64 to be equal to 1 if the breather vent settings are within ± 0.03 psig.

b. Update the calculations for the following parameters to use the associated monthly meteorological data from Rows 43 through 47:
   i. Average vapor Temperature (T_V), Row 69: Update insolation factor;
   ii. Daily average liquid surface temperature (T_{LA}), Row 70: Update insolation factor;
   iii. Daily vapor temperature range (ΔT_V), Row 71: Update insolation factor;
   iv. Daily maximum ambient temperature (T_{AX}), Row 73: Update maximum temperature;
   v. Daily minimum ambient temperature (T_{AN}), Row 74: Update minimum temperature; and
   vi. Liquid bulk temperature (T_B), Row 76: Update insolation factor.

ATI response: These have each been updated to reflect the average insolation factors and temperatures for that specific month rather than the average annual temperatures and insolation factors.

8. **Tank TESUs (TEU EU-02)**:
   a. To reduce confusion and aid in the CAO review process, ensure consistency in tank naming and include TESU IDs in supporting calculation worksheets.

   ATI response: ATI has updated naming conventions to ensure consistency.

   b. Confirm how tank compositions are developed. If compositions were determined from SDSs, provide copies of these for DEQ to review.
   ATI response: Tank compositions based on information from ATI staff in table below. SDS names are supplied for each tank in the table, and attached in the SDS folder. A note for concentration percentages given. Rather than using the average of the SDS percentages, the percentage given in the concentration is how the facility treats these percentages of these chemicals based off of process measurements and historical uses. For example, SDS for sulfuric acid claims between 90% and 100% concentration but the engineers and labeling onsite treat this as 93% sulfuric acid.

Process Tanks

# of Tanks	Tank ID	TESU	Substance	Concentration	Composition SDS or mixture.
1	Ammonia Recovery Feed Mix Tank	S21_D	Sulfuric Acid	20% Sulfuric acid	ATI dilutes the sulfuric acid to 20% before transferring to the tank. SDS_Sulfuric Acid.pdf

https://www.epa.gov/system/files/documents/2025-09/c7s1_2025.pdf

# of Tanks	Tank ID	TESU	Substance	Concentration	Composition SDS or mixture.
1	Ammonia Recovery Feed Mix Tank	S31	NH4OH	4% NH4Cl	4% ammonium chloride*
1	Ammonia Recovery Feed Storage	S36	NH4OH	4% NH4OH	4% Ammonium hydroxide*

*These two tanks are intermediate process tanks and SDSs for the in situ composition is not available. Other components include lime and calcium sulfate that do not contain TACs. Emission estimates are based on a 4% solution of ammonium hydroxide in 96% water to estimate potential ammonia emissions.

Storage Tanks

# of Tanks	Tank ID	TESU	Substance	Concentration	Composition SDS or mixture.
1	Ammonia Recovery NH4OH Storage	S35	NH4OH	28% NH4OH	SDS_Aqua ammonia.pdf
1	Concentrated. H2S04 Tank	S21_C	Sulfuric Acid	93% Sulfuric	SDS_Sulfuric Acid.pdf
2	Conc. HCl tank	S23	HCL	36% HCL	SDS_HCL.pdf
1	Ammonia Recovery HCl Storage	S33	HCL	36% HCL	SDS_HCL.pdf

c. Per Specific Comment 4.b, provide documentation from the scrubber manufacturer(s) to support the stated removal efficiencies. If manufacturer data is not available, provide additional description of the control devices and references for removal efficiencies in similar applications.

ATI response: See the Pollution Control Device table included which discusses removal efficiencies for each control device. For the concentrated HCL tank (S23), the scrubber manufacture specifications could not be located but the manufacturer is the same as the Ammonia recovery HCL storage tank (S33). A removal efficiency of 99% was applied to this scrubber instead of 99.5% for the S33 scrubber.

d. **Storage Tanks (TESUs S21_C, S23, S33, and S35)**:
   i. Provide justification for the assumption that emissions are only generated from filling activities at these tanks. Include in this justification a discussion of tank ventilation sufficient to address why these tanks have no standing losses.

   ATI response: Each storage tank except for the Ammonia Recovery HCL storage tank (S33) and the concentrated HCL tanks (S23) are operated to only vent to a scrubber or to a container submerged in water (bubbler) while they are not being filled. ATI does not expect any of these tanks to have

standing losses as they are kept at standard temperature and pressure, and would only be expected to vent during filling operations, termed as working losses.

The S33 and S23 tanks have conservation vents on each tank that maintains internal pressure at less than 0.5 psig. We have modified the supporting calculations to include a Tank ESP+ run which calculates the standing losses from these tanks. The throughput for the Tank ESP+ run are set to 0, because all working losses go through the control devices during filling operations.

ii. Confirm how the daily throughputs were developed and whether these represent the actual storage capacity of the tanks or the "working" volume of the tank. Note any assumptions that were made in developing these throughputs.

ATI Response: The daily throughputs for the storage tanks were developed by taking the complete volume of each tank and assuming one complete turnover in a day. The concentrated HCL tanks assume 2 turnovers per day. This is conservatively assuming the tank is completely empty and is filled with a fully saturated vapor that is then pushed out during tank filling. The weight of the pollutant in each tank was calculated by multiplying the calculated weight of average air in each tank by the vapor composition weight percent. The vapor composition percent was developed using Daltons law of partial pressures, and using Antoines equation to develop the partial pressures of substances within the tank.

iii. Confirm that the storage tanks are maintained at ambient pressure as is assumed in the tank calculations.

ATI response: Each tank is maintained at ambient pressure except for the ammonia recovery HCL storage tank and the concentrated HCL tanks which have conservation vents set at +/- 0.5 psig. This is discussed above in response to comment 8.d.i.

iv. Provide updated references for all chemical properties, assumptions, and calculations used in development of the TAC emission estimates presented in the "Storage Tank" worksheet. Additionally, include appropriate labels and units for all parameters.

ATI response: References and calculations were updated on the storage tanks tab of the supporting calculations, so the calculations can be more clearly followed.

v. Review calculations and ensure the appropriate tank volume unit conversions are included.

ATI response: Tank volumes are calculated by finding the volume of a cylinder based on tank measurements, and converting to gallons. For the Ammonia recovery NH4OH storage tank, the volume is known at 18,000 gallons.

vi. DEQ was unable to match the Antoine coefficients used in partial pressure calculations in the "Storage Tank" worksheet against information presented in Perry's Chemical Engineers' Handbook.[2] Update the references to include specific tables or sections referenced from Perry's Chemical Engineers' Handbook. Alternatively, estimate the partial pressure for the tank contents using partial pressure data presented in the following tables from Perry's Chemical Engineers' Handbook.[3] For solution compositions and/or temperatures which are not presented in the tables, ATI may either extrapolate between the available data or assume conservative partial pressures from the available data.

1. For partial pressures of water and hydrochloric acid (CASRN 7647-01-0) in aqueous solutions of hydrochloric acid see Tables 2-11 and 2-12, respectively. Note, these tables do have Antoine coefficients which are dependent on the composition of the solution. However, these tables note that the partial pressure information in the tables "is more nearly correct;" [3]

ATI response: Antoine's coefficients, and associated vapor pressures for vapor emissions from aqueous HCl are estimated using data from Tables 2-11 and 2-12 of Perrys Chemical Engineers Handbook (Perrys), indicated above. For this approach we did not use Antoine's coefficients based on the pure constituents (HCl and H_2O), as these would not account for the non-ideality of the solution. The Antoine's coefficients used were instead back-calculated from the table data to establish a relationship between the temperature and vapor weight percent empirical data for a given composition. In this case, we used 36 weight percent (wt%) HCl based on facility data on the acid solution.

Two factor Antoine's coefficients were extracted from the given concentration and temperature data from the two tables by pulling the intercepts of the regressed linear function ln(P(T)) / (1/T). Two factor Antoine's (psia) were then converted to three factor (mmHg (compatible with ESP+)), shown below for the 36 wt% concentration solution:

Constituent	Antoine's Coefficients		
	A	B	C
HCl	10.29	2,229	273.15
H_2O	9.32	2,526	273.15

To confirm the Antoine's coefficients, calculated vapor pressures at varying temperatures for each species were compared to the empirical data. Results are shown below:

Temperature (°F)	$x_{HCl}\,\gamma_{HCl}\,P_{HCl}$ (psia)		$x_{H_2O}\,\gamma_{H_2O}\,P_{H_2O}$ (psia)		$P_{mixture}$ (psia)	
	Perry's	Calculated	Perry's	Calculated	Perry's	Calculated
32	0.57	0.57	0.01	0.02	0.58	0.58
41	0.79	0.79	0.02	0.03	0.81	0.82

[3] Green, Don W. and Perry, Robert H (Eds.). 2008. *Perry's Chemical Engineers' Handbook* (8th ed.). New York: McGraw-Hill.

50	1.10	1.10	0.03	0.04	1.13	1.14
59	1.50	1.50	0.04	0.05	1.55	1.56
68	2.04	2.04	0.06	0.08	2.10	2.11
77	2.73	2.73	0.09	0.11	2.82	2.84
86	3.63	3.63	0.12	0.15	3.75	3.78
95	4.78	4.78	0.16	0.20	4.94	4.98
104	6.23	6.23	0.22	0.27	6.45	6.51

Differences indicated that for this species and range of temperatures, the Antoine's coefficients estimated were applicable to the Perry's empirical data, and erred on the side of conservatism for all discrepancies.

2. For partial pressures of water and ammonia (CASRN 7664-41-7) in aqueous solutions of ammonia see Tables 2-23 and 2-25, respectively; and

ATI Response: Antoine's coefficients, and associated vapor pressures for vapor emissions from aqueous NH_3 are estimated using data from Tables 2-23 and 2-25, indicated above. For this approach we did not use Antoine's coefficients based on the pure constituents (NH_3 and H_2O), as these would not account for the non-ideality of the solution. The Antoine's coefficients used were instead back-calculated from the table data to establish a relationship between the temperature and vapor weight percent empirical data for a given composition. In this case, we used 28 wt% NH_3 based on facility data on the acid solution.

Two factor Antoine's coefficients were extracted from the given concentration and temperature data from the two tables by pulling the intercepts of the regressed linear function ln(P(T)) / (1/T). Two factor Antoine's (psia) were then converted to three factor (mmHg (compatible with ESP+)), shown below for the 28 wt% NH_3 concentration solution:

Constituent	Antoine's Coefficients		
	A	B	C
NH_3	8.362	1507.722	273.150
H_2O	9.240	2372.900	273.150

To confirm the Antoine's coefficients, calculated vapor pressures at varying temperatures for each species were compared to the empirical data. Results are shown below:

Temperature (°F)	$x_{NH_3}\,\gamma_{NH_3}\,P_{NH_3}$ (psia)		$x_{H_2O}\,\gamma_{H_2O}\,P_{H_2O}$ (psia)		$P_{mixture}$ (psia)	
	Perry's	Calculated	Perry's	Calculated	Perry's	Calculated
40	4.73	4.940	0.065	0.067	4.795	5.007
50	6.154	6.314	0.097	0.100	6.251	6.414
60	7.912	7.994	0.142	0.203	8.054	8.197
70	10.056	10.032	0.204	0.290	10.26	10.322
80	12.645	12.483	0.289	0.409	12.934	12.892
90	15.741	15.410	0.403	0.570	16.144	15.980
100	19.406	18.881	0.556	0.784	19.962	19.666

Differences indicated that for this species and range of temperatures, the Antoine's coefficients estimated were applicable to the Perry's empirical data, and erred on the side of conservatism for all discrepancies.

Since the last submission of the AQ520 in response 3, the Ammonia solution Antoine's coefficients have been corrected from representing a 20 wt% ammonia solution, to a 30 wt%, in alignment with site records. While the solution is 28% ammonia, 30% of molar volume is used to align with the Perrys tables. Ammonia storage tank emissions have been updated following this correction.

3. For partial pressures of water, sulfur trioxide (CASRN 7446-11-9), and sulfuric acid (CASRN 7664-93-9) in aqueous solutions of sulfuric acid see Tables 2-14, 2-15, and 2-16, respectively.

ATI response: Antoine's coefficients, and associated vapor pressures for vapor emissions from aqueous sulfuric acid are estimated using data from Tables 2-14, 2-15, and 2-16, indicated above. For this approach we did not use Antoine's coefficients based on the pure constituents (H_2SO_4, SO_3, and H_2O), as these would not account for the non-ideality of the solution. The Antoine's coefficients used were instead back-calculated from the table data to establish a relationship between the temperature and vapor weight percent empirical data for a given composition. In this case, we used 93 wt% H_2SO_4 based on facility data on the acid solution.

Because the solution behaves non-ideally, the partial pressure values in Perry's are not equal to (mole %) X (pure component vapor pressure). As a math model to handle this non-ideality, this formula modifies Raoult's Law by introducing activity coefficients (γ) for each of the three species as follows.

$$PV,mixture = x_{H_2SO_4} * \gamma_{H_2SO_4} * P_{H_2SO_4} + x_{H_2O} * \gamma_{H_2O} * P_{H_2O} + x_{SO_3} * \gamma_{SO_3} * P_{SO_3}$$

The values presented by Perry's Table 2-14, 2-15, or 2-16 correspond to the product [x γ P] or [x [γ P]]. Further, any emissions estimation tool using Raoult's Law treats [γ P] as P. So, representing x for each species[4], we can use Antoine's to describe the empirical relationship from x and T to the value [γ P], thus overriding the need for activity coefficients.

Two factor Antoine's coefficients were extracted from the given concentration and temperature data from the three tables by pulling the intercepts of the regressed linear function ln(P(T)) / (1/T). Two factor Antoine's (psia) were then converted to three factor (mmHg (compatible with ESP+)), shown below for the 20% concentration solution:

Constituent	**Antoine's Coefficients**		
	A	**B**	**C**
H_2SO_4	9.108	4,078.021	273.150
SO_3	15.153	5,316.921	273.150
H_2O	9.860	3,613.203	273.150

To confirm the Antoine's coefficients, calculated vapor pressures at varying temperatures for each species were compared to the empirical data. Results are shown below:

[4] *SO3 is expected to be generated in mixtures of sulfuric acid and water, so it is represented as a non-negligible weight percentage here.*

Temperature (°C)	$x_{H_2SO_4}\,\gamma_{H_2SO_4}\,P_{H_2SO_4}$ (psia)		$x_{H_2O}\,\gamma_{H_2O}\,P_{H_2O}$ (psia)		$x_{SO_3}\,\gamma_{SO_3}\,P_{SO_3}$ (psia)		$P_{mixture}$ (psia)	
	Perry's	Calculated	Perry's	Calculated	Perry's	Calculated	Perry's	Calculated
0	1.62E-08	2.165E-08	1.55E-06	2.137E-06	9.82E-12	9.416E-12	1.57E-06	2.16E-06
10	5.93E-08	7.291E-08	4.99E-06	6.267E-06	4.73E-11	4.585E-11	5.05E-06	6.34E-06
20	1.97E-07	2.260E-07	1.46E-05	1.708E-05	2.05E-10	2.004E-10	1.48E-05	1.73E-05
30	6.02E-07	6.501E-07	3.99E-05	4.355E-05	8.08E-10	7.946E-10	4.05E-05	4.42E-05

Differences indicated that for this species and range of temperatures, the Antoine's coefficients estimated were applicable to the Perry's empirical data, and erred on the side of conservatism for all discrepancies.

vii. Concentrated HCL tank (TESU S23): Information presented in the "Storage Tank" and "Tank Scrubber" worksheets indicates that this TESU includes two Concentrated HCl storage tanks. If so, update the emission calculations to account for double the tank throughput. Additionally, confirm that the volume/capacity of the Concentrated HCl tank(s) is correct and consistent across the information presented in the Inventory and supporting calculations.

ATI Response: There are two concentrated HCL tanks with one shared tank scrubber. The emission calculations already account for the throughput volume for both tanks as the total throughput for both tanks is used. The annual turnovers are based on a per tank turnover and the daily calculations conservatively assume both tanks get filled twice on the same day.

viii. Ammonia Recovery HCl Storage tank (TESU S33): Provide estimates for the maximum daily throughput, annual throughput, and the stored material's composition.

ATI Response: TESU S33's daily and annual throughputs are based on the tank volume and the expected yearly deliveries. These have been updated in the supporting calculations One tank delivery would be expected per day, and up to 24 deliveries per year. The stored materials composition is 36% HCL and is provided in response to 8.b above.

e. **Process Tanks (TESUs S21_D, S31, and S36)**:

i. Dilute H2S04 Tank (TESU S21_D): Based on the throughputs, tank parameters, and composition information provided by ATI, DEQ has approved the Dilute H2S04 Tank TESU as an Exempt TEU for the purposes of CAO under OAR 345-245-0060(3)(a). Exempt TEUs must be listed in Worksheet 2 of the revised AQ520 form requested under Specific Comment 10, but there is no requirement to include activity levels for this TEU and it can be excluded from Worksheet 3 as you do not need to estimate emissions for Exempt TEUs.
ATI response: This tank has been added as an exempt TEU on worksheet 2 of the AQ520 and excluded from worksheet 3.

ii. Ammonia Recovery Feed Mix and Feed Storage tanks (TESUs S31 and S36): ATI notes that liquid levels in these process tanks is maintained at a constant level and therefore has not estimated working losses from these tanks. Provide additional details on the operation of these tanks to support this assertion.

ATI response: S31 and S36 are process flow through tanks with inlet and outlet piping. The product flows out of the tank via gravity and the invert level of the outlet pipe physically restricts the tank level from dropping below to the height of the invert which is a fill level of approximately 80%. The tank calculations provided in the submittal conservatively assume a liquid level of about 50% thereby overestimating the vapor space volume used to estimate emissions. The emission calculations have also been updated to account for the new ammonia recovery feed mix and storage scrubber (TESU S31_36) that is planned to be operational this year. The scrubber services both the Ammonia Recovery Feed Mix and Feed Storage tanks.

9. **Cooling Tower TEU**: DEQ has reviewed annual usage rates and dosage targets provided by ATI along with the SDSs for the cooling tower water treatment materials. Based on the conditions of use of these materials, TAC content, and the low target concentrations in the cooling tower recirculation water, DEQ has approved the Cooling Tower TEU as an Exempt TEU for the purposes of CAO under OAR 345-245-0060(3)(a). Exempt TEUs must be listed in Worksheet 4 of the revised AQ520 form requested under Specific Comment 10, but there is no requirement to include activity levels for this TEU and it can be excluded from Worksheet 5 as you do not need to estimate emissions for Exempt TEUs.

   ATI Response**: **ATI has added these as an exempt TEU under worksheet 4.

10. **Revised Inventory**: Submit to DEQ a revised AQ520 Inventory Form, along with all supporting calculations in Excel format, as well as all information required under OAR 340-245-0040(4). Include the following updates to the Inventory:
    a. Per General Comment 2, remove supplemental worksheets added by ATI to the AQ520 form. Submit supplemental calculations in a separate workbook.
    ATI response: A supporting calculations workbook has been supplied alongside the AQ520.
    b. Incorporate any revisions to the Inventory required after addressing Specific Comments 2 through 9.
    c. Update the TEU Descriptions in Column C of Worksheet 2 to refer to the emissions generating activities, not the control device. The activity venting to a control device is considered the TEU, not the control device itself. Update the TEU/TESU description in Column C of Worksheet 2 for the following TESUs:
       i. Extrusion Press cell BH1 (TEU EU-AI, TESU S71-1);
       ii. Extrusion Press Cell BH2 (TEU EU-AI, TESU S71-2);
       iii. Ammonia Recovery Lime Silo Baghouse (TEU EU-AI, TESU S146); and
       iv. Thermite Baghouse (TEU EU-06, TESU S30).

ATI Response: These activity names have been updated to include the activities on sheet 2, rather than the baghouses controlling those activities

    d. Per General Comment 1, ensure consistency in TEU naming across the Inventory. The following TESUs have different TEU identifiers then are used elsewhere in the Inventory for the same TEU:
       i. Ammonia Recovery Lime Silo Baghouse (TESU S146) TEU ID is listed as "EU_AI," but "EU-AI" is used previously in the Inventory; and
       ii. Thermite Baghouse (TESU S30) TEU ID is listed as "EU_06," but "EU-06" is used previously in the Inventory.

ATI Response: These EU ID's have been updated.

e. Confirm the Control Device ID in Column C of Worksheet 2 for the following TESUs. The ID in the Inventory differs from information presented in the Permit Review Report.
   i. Thermite Baghouse (TEU EU-06, TESU S30);
   ii. Ammonia Recovery Feed Mix Storage (TEU EU-02, TESU S36); and
   iii. Ammonia recovery HCL Storage (TEU EU-02, TESU S33).

ATI Response: These control device IDs have been adjusted to match the review report.

f. **Abrasive Blasting TESUs**:
   i. Garnet Blasting (TEU EU-4; TESUs S41, S43, and S32): Include emission estimates for barium (CASRN 7440-39-3) from garnet blasting activities using the metal speciation data in Table 5 of ATI's abrasive blasting emissions reference.[5]

ATI Response: Barium and compounds (CASRN 7440-39-3) has been added to the garnet blasting speciation table.

   ii. Blaster BL 03 (TEU EU-04, TESU S43): Revise the TESU assignment for Row 661 of Worksheet 3. The TESU assignment is for TESU S26, but the referenced emission factors are for TESU S43.

ATI Response: This cell has been adjusted to reference S43 in the supporting calculations.

g. **Metals Acid Cleaning TESUs (TEU EU-12, TESUs B42 and S42)**: Update the activity basis listed in Worksheet 2 for these two TESUs to be consistent.

ATI Response: The activity basis has been updated to be "Hours operating" for each TESU.

h. **Thermite (TEU EU-06, TESU S30)**: Revise the emission factor for barium (CASRN 7440-39-3) per Specific Comment 6.b.

ATI Response: The emission factor has been adjusted to be in lb/hr rather than lb/lb of thermite processed.

i. **Gasoline Dispensing Facility (TEU EU_GDF)**:
   i. Unless there are multiple sub-units to this TEU, ATI should not define a TESU. Therefore, if there is no TESU for the GDF TEU, leave Column B blank in both Worksheets 2 and 3.

ATI Response: These have been adjusted.

   ii. Update the activity basis on Worksheet 2 to be in gallons of gasoline as that is the basis of the VOC emissions estimates used to estimate TAC emissions. Likewise, update the TAC emission factors in Worksheet 3 to be on the same basis.

ATI Response: The activity basis has been updated to gallons of gasoline and the emission factors have been updated to lbs of each chemical per gallon of gasoline.

   iii. Update emission estimates as appropriate based on updates incorporated after addressing Specific Comment 7.

ATI Response: These estimates have been updated.

   iv. There are multiple TACs for which the entered CASRN in Column C of Worksheet 3 is not recognized and the associated cells in Columns C and D are highlighted. DEQ's review of the entered CASRN show they are correct, so this is most likely a formatting issue resulting from copying data into the AQ520 form. Address the CASRN entry error for the following TACs:
      1. 1,3,5-Trimethylbenzene (CASRN 108-67-8);
      2. 2,2,4-Trimethylpentane (CASRN 540-84-1);

[5] Kura, Bhaskar. 2005. *Residual Risk from Abrasive Blasting Emissions: Particle Size and Metal Speciation*. Advanced Technology Institute. https://www.nsrp.org/wp-content/uploads/2015/09/Deliverable-2006-317-Residual_Risk_Abrasive_Blasting_Final_Report-Bhaskar_Kura.pdf

3. 2-Methyl naphthalene (CASRN 91-57-6); and
4. Naphthalene (CASRN 91-20-3).

ATI Response: The emission factors have been updated to longer show a highlighting error.

v. ATI has over reported emissions of xylene from this TEU as both the individual isomers and xylenes mixture (CASRN 1330-20-7) have been included in Worksheet 3. Delete rows for the individual xylene isomers and only report emissions under the xylenes (mixture) TAC.

ATI Response: The isomers of xylene have been deleted and only the mixture is included in Worksheet 3.

vi. Revise the "Reference/Notes" in Column L of Worksheet 3 to delineate the multiple references included. For example, clarify the references used for the annual emission estimates and those for the daily emission estimates.

ATI Response: The "Reference/Notes" in Column L of Worksheet 3 have been updated to clarify the references used for estimating daily emissions and annual emissions.

j. **Tank TESUs (TEU EU-02)**:

i. Include the type of control device along with the device ID in Column C of Worksheet 2 for the following tank TESUs:
1. Dilute H2S04 Tank (TESU S21_D);
2. Concentrated H2S04 Tank (TESU S21_C); and
3. Ammonia Recovery NH4OH storage (TESU S35).

ATI Response: These have been updated to include the label scrubber before the control device ID.

ii. Update the TEU/TESU description in Column C of Worksheet 2 for all tanks TESUs to include "tank" in the description. The following TESUs are understood to be tanks but are missing this description:
1. Ammonia Recovery Feed Mix Storage (TESU S36);
2. Ammonia recovery HCL Storage (TESU S33); and
3. Ammnia Recovery NH4OH storage (TESU S35).

ATI Response: These have been updated to include tank in the description.

iii. Dilute H2S04 Tank (TESU S21_D): Per Specific Comment 8.e.i, ATI may include TESU S21_D as an Exempt TEU. This TESU must be included in Worksheet 2, but there is no requirement to include activity levels for this TESU and it can be excluded from Worksheet 3 as you do not need to estimate emissions for Exempt TEUs.

ATI response: This tank has been added as an exempt TEU on worksheet 2 of the AQ520 and excluded from worksheet 3.

iv. Concentrated HCL tank (TESU S23):
1. The PTE maximum daily throughput for this TESU on Worksheet 2 is less than the actual maximum daily throughput and differs from information presented in the "Tank Scrubber" worksheet. Review and revise as appropriate.

ATI response: The maximum daily throughput has been adjusted to match the worksheet and is not less than the actual daily throughput.

2. Per Specific Comment 8.d.vii, information presented in ATI's supplemental calculation worksheets indicates that this TESU includes

two (2) concentrated HCl storage tanks. If so, update the TEU/TESU Description in Column C of Worksheet 2 to note this. Both tanks can be represented as a single TESU as long as they vent through a shared stack (or control device).

ATI Response: The description has been updated for S23. S23_T1 and S23_T2 have been added as TESU's to capture the emissions from the standing losses from the conservation vents on each tank.

v. Ammonia Recovery Feed Mix Storage (TEU EU-02, TESU S36): The PTE annual (Column J) and actual maximum daily (Column L) throughputs for this TESU in Worksheet 2 reference the incorrect tank information from the "Tank Scrubber" worksheet. However, the referenced tank data does have equivalent throughputs so emissions estimates in Worksheet 3 should be not be impacted by the error.

ATI Response: TEU S36 and TEU S31 have been combined as TEU31_36 as the scrubber that will be installed there captures emissions from each of the tanks.

vi. Per General Comment 3, revise the "Reference/Notes" in Column L of Worksheet 3 for these TESUs to describe how emission estimates were developed for these TESUs. Per General Comment 2, the AQ520 should not include additional worksheets added by ATI and therefore, the information in the AQ520 should provide as complete a description of the emission estimates as possible.

k. **Cooling Tower TEU:**

i. Remove the TESU assignments for the individual materials listed under this TEU in Column B of Worksheet 4. Usage of multiple materials can be accounted for under a single TEU.

ii. Include a TEU description in Column C of Worksheet 4 in addition to the statement about the exempt status of the TEU. Note the total number of cooling towers.

iii. Include the material name, currently listed in Column B of Worksheet 4, in Column E and include the material's manufacturer in Column F.

iv. DEQ has reviewed the SDS for the ChemTreat CL2150 material and it contains no TACs. Therefore, this material should be removed from Worksheet 4.

ATI Response: These updates have been made to the AQ520 form worksheet 4.

If you have any questions, please contact Mike Riley at michael.riley@atimaterials.com.

Sincerely,

Tony Valladares (Submitted electronically via YDO)
Senior Direction of EHS