



September 6, 2019

Mr. J.R. Giska
DEQ CAO Program Engineer
Department of Environmental Quality
700 NE Multnomah Street, Suite 600
Portland, OR 97232

Re: Cleaner Air Oregon Emissions Inventory

Dear Mr. Giska:

ENTEK International, LLC (ENTEK) received your letter dated August 8, 2019 requesting additional information related to our Cleaner Air Oregon (CAO) inventory. Below is our response to each of your questions. For clarity, we have restated each of your questions in italics and state the answer immediately after each question.

General Comments

The cover letter submitted with the Emissions Inventory for this facility states that facility improvements and new continuous emissions monitors may affect future emissions and associated reporting and therefore an estimated potential to emit was not included. The cover letter then describes an anticipated process of establishing Source Risk Limits for this facility.

Pursuant to OAR 340-245-0040(3)(B)(ii)(I), emissions inventories must include:

"Annual production and usage that are used to calculate the Source Risk Limit If the owner or operator chooses to be permitted based on a requested PTE or risk limit"

Furthermore, the methodology used to establish Source Risk Limits under OAR 340-245-0110(2) will be determined by DEQ based on additional assessments, including the results of a completed and approved Risk Assessment performed in accordance with OAR 340-245-0050.

Therefore, the revised Emissions Inventory submittal must include "requested PTE" activity levels and annual usages and the resulting emissions that will be used as the basis for any future proposed Source Risk Limits. In the absence of "requested PTE" activity levels, DEQ will determine Source Risk Limits based on the activity levels reported to DEQ in your 2018 Annual Report.

Response: We are not clear as to the Department's comment suggesting that it would "determine Source Risk Limits based on the activity levels reported to DEQ in [our] 2018 Annual Report" if we did

not submit “requested PTE” values. OAR 340-245-0110(2)(b) is clear that for existing sources such as ENTEK, source risk limits can be established at “a level other than the modeled level that reflects a reasonable estimate of risk from the source taking into account projected operations and other factors...” Several different factors are listed. As we noted in our cover letter to the toxic emissions inventory, we anticipate that if we seek a risk limit, we will model 2018 actual emissions and apply the factors listed in the rule. We do not anticipate that we would derive that risk limit exclusively from the activity levels in our 2018 Title V report.

However, in an effort to be responsive, we have added projected emissions to the inventory in the event that we choose to seek a usage limit rather than a risk limit. The projected numbers are subject to change as we proceed through the CAO process.

Specific Comments:

Based upon the initial review, DEQ requires additional information on the following items pursuant to OAR 340-245-0030(2):

1. ***EU-1 - Separator Production Lines:*** *These are the main production lines responsible for the majority of Toxic Air Contaminant emissions from your facility. It appears as though several emissions units involving multiple calculations are combined in the emissions reported from this unit:*
 - a. *Provide all emissions calculations performed for "Fugitives and non-fugitives":*
 - i. *Provide any and all background data needed to substantiate these calculations - e.g., studies providing data on TCE remaining in final products.*

Response: While recognizing that you only referenced “studies providing data on TCE remaining in final products” as an example, we note that while the “final product” calculation was historically used to help estimate emissions, it is not a methodology ENTEK is using for CAO emission estimates. We have a better methodology now for estimating TCE emissions based on CEMs data and 100% containment of TCE emissions within the production facility. Therefore, the data on TCE remaining in final product is not relevant to our CAO emissions inventory.

- ii. *Provide all sources of emissions that are included in "fugitives" – DEQ anticipates this list would include but not be limited to:*
 1. *Breathing/Working losses from tanks, valves, and fittings;*
 2. *Bulk "Loading Rack" for NEU-TRI;*
 3. *Warehouse and staging area; and*
 4. *Trimmed/Wound product staging for transfer to warehouse*

Response: ENTEK maintains permanent total enclosures (“PTEs”) around much of the facility operations. By definition, no operations located within a PTE are considered to result in fugitive emissions as all emissions are routed to the PTE exhaust point. Answers to your specific items are as follows:

Breathing/Working losses from tanks, valves, and fittings: The only tanks that ENTEK operates that are not within the definition of categorically insignificant activities are the TCE tanks.

The breathing/working losses from these tanks vent to the carbon system and are controlled. Valves and fittings are monitored under a LDAR program mandated by our Title V permit which requires expeditious repair if any leak is identified. Therefore, there are no fugitive emissions from tanks, valves or fittings.

Bulk "Loading Rack" for NEU-TRI: The loading rack is sealed and vents to the carbon beds. Therefore, there are no fugitive emissions from the loading rack.

Warehouse and staging area: We assume that you are referring to the area where we put the rolls of separator material before shipping them off-site or moving them to the interim storage warehouse, i.e., finished goods waiting to go into a truck. At each stage prior to being trucked out of the Line 11 building, the separator material is in a PTE. Specifically, all rolls of separator material waiting to be wrapped, staged for transfer, and stored in the Line 11 building is 100% contained and routed to the carbon bed control system where any TCE that evolved from the material is measured by the stack TCE CEMS. Therefore, there are no fugitive emissions from this area.

Trimmed/Wound product staging for transfer to warehouse: We assume that you are referring to the area where waste is stored across from Line 11. This area is within a PTE and all exhaust is routed to the control system and the emissions are measured by the stack TCE CEMS.

- b. *Substantiate the difference between the submitted Trichloroethylene (TCE) emissions of 17.97 tons/yr in this Cleaner Air Oregon Emissions Inventory and the 21.8 tons/yr TCE as provided in the 2018 Annual Report for this facility.*

Response: The difference between the Title V submittal and the CAO submittal reflects two points where CAO inventory reporting differs from ENTEK’s Title V reporting. These are:

- (1) ENTEK has historically reported its usage of NEU-TRI solvent as ‘TCE’. CAO requires that NEU-TRI solvent usage be reported separately for the two chemicals in NEU-TRI solvent: trichloroethene (99.5% w/w) and 1,2-Epoxybutane (0.5% w/w).

ENTEK’s stack emissions would be reported as follows for CAO purposes:

Stack Emissions - 2018			
Title V - TCE	18.06 tons		
	EF (24/7/365)	Control Eff	Emissions
	lbs/hr		Tons/yr
TCE	1641.48	99.75%	17.97
1,2-Epoxybutane	2.06E-02	0.00%	0.09
Total			18.06

- (2) Interim storage warehouse emissions are reflected in the Title V submittal but not the CAO submittal as these “warehouse activities” are categorically insignificant under OAR 340-200-0020(23)(s). Categorically insignificant activities are classified as “exempt” under OAR 340-245-0060(3)(a)(A) and OAR 340-245-0040(3)(a)(A) specifies that sources need not include exempt TEU emissions in the CAO inventory.

2. *EU-2 - Boilers:*

- a. *Boiler EU-2.3 - The following emissions activities were reported for this boiler in the 2018 Annual Report, but were not reported in this submittal. Please include these emissions, or explain the absence of this emissions unit and activities in this submittal:*
- i. *494 MMft3 Natural Gas*
 - ii. *5,845 gal Diesel*

Response: The failure to include the boiler emissions in the CAO inventory was an oversight. We understand that while the risk from the combustion of natural gas in the boilers need not be included in the values compared to the Risk Action Levels, we do need to estimate risk from these natural gas-fired units. The revised inventory reflects the boiler emissions.

3. *EU-3 - Line Defect Marking System (reported as EU-1 on EI submittal):*

- a. *Explain or correct the designation of this emissions unit relative to the permit.*
- b. *Provide calculations for Isopropanol, t-Butyl acetate, and 2-Butanone emissions*
- c. *Substantiate the difference between the submitted Isopropanol emissions in this Cleaner Air Oregon Emissions Inventory of 1.83 tons/yr and 2.65 tons/yr as provided in the 2018 Annual Report for this facility.*

Response: We recognize that this process is identified as EU-3 in the Title V permit but was included within EU-1 in the inventory. This is because there are applicable requirements under Title V that are specific to the defect marking system and thus it is under a separate EU. For CAO purposes, we combined this under TEU-1 because the emissions from this process is located within a PTE and all emissions are routed to the main stack.

For 3.b:

- Two production lines use an ink jet marking system for spray marking. These emissions are detailed below.

For 3.c.:

- ENTEK's 2018 Title V reporting erroneously included isopropyl alcohol (IPA) used for non-EU-3 activities in EU-3 emissions.
- The initial CAO inventory over-stated the EU-3 IPA usage for lines by including other minor AI-related activities.

The detailed and corrected EU-3 emissions in 2018 were:

EU-3 Spray Marking - 2018					
	Composition	Density lbs/gal	Usage gal/yr	Usage lbs/yr	Usage Tons/yr
Isopropyl Alcohol	100%	6.57	535	3,515	1.76
Ink Jet Marking		7.506	20.00	150	0.08
<i>...which is comprised of..</i>					
Isopropyl alcohol	5%		1.00	8	0.00
t-Butyl acetate	40%		8.00	60	0.03
2-Butanone (Methyl ethyl ketone)	5%		1.00	8	0.00
Totals - EU-3 Spray Marking					
Isopropyl alcohol			536.00	3,522	1.76
t-Butyl acetate			8.00	60	0.03
2-Butanone (Methyl ethyl ketone)			1.00	8	0.00

4. EU-4 - Cut-to-Size/Glass Mat Duraloc Line:

- a. *Provide additional clarification and information on this process, specifically related to materials used to adhere Fiber Glass Mat to finished product and their associated Air Toxics emissions.*

Response: The adhesive is water-based. The composition of the adhesive is a trade secret, but the Manufacturer provides the following statement with respect to VOC content:

Xynpol BS830M Regulatory Statement

HAP (Hazardous Air Pollutants) content.

Xynpol BS830M has low levels of VOC (Volatile Organic Content), typically <200ppm as supplied.

This equates to <0.002kg/kg on dispersion or <0.004 kg/kg based on coating solids. Therefore, we are confident the material is below the requested threshold for HAP's (<0.04 kg/kg coating material; <0.2 kg/kg coating solids)

The Manufacturer's SDS states that:

Dangerous components (maximum concentration value): No dangerous components.

The statement of VOC content and the SDS for the adhesive are included with this response.

5. ***EU 5 - PM Controls:***

- a. *BH-23: Identify the composition of PM that is being controlled- e.g., silica emissions*

Response: Baghouse 23 is the baghouse controlling our new silica system. This is a nuisance dust control device and the silica is amorphous, not crystalline. As such, no TAPs are emitted from the system. SDSs for the materials are included with this submittal.

6. ***Aggregate Insignificant Activities:***

- a. *Provide emissions from the following activities and systems or substantiate their omission from this submittal:*

- i. *Smoke Collection Activities (Filter Beds)*

Response: The fiber beds (we do not refer to them as “filter beds”) control oily smoke and there is no evidence suggesting that this process results in any TAP emissions.

- ii. *Oil Cleaning Activities (FB-7A)*

Response: This fiber bed (FB-7A) is vented to the carbon bed system. There is no evidence suggesting that this process results in any TAP emissions.

- iii. *Mixing Activities (Baghouses)*

Response: The mixing activity baghouses controls amorphous silica and polyethylene particles. There is no evidence suggesting that this process results in any TAP emissions.

- iv. *Grey-Trim Collection System (BH-3) - venting location*

Response: This baghouse (BH-3) controls nuisance particulate from the trim system. The baghouse is vented directly into the work area which is part of a PTE venting to the carbon bed system. There is no evidence suggesting that this process results in any TAP emissions.

- v. *Bulk off-loading of Silica & Polyethylene and related materials handling activities*

Response: The bulk off-loading is of solid particles of silica and polyethylene. There is no evidence suggesting that these processes result in any TAP emissions.

- v. *Pyrolysis Oven*

Response: This oven is used primarily for heating one of two high-tolerance, clean, machined parts to facilitate assembly when the clearances between the two fitted parts is an interference fit at room temperature, a process known as ‘heat-shrinking’.

The oven is occasionally used for cleaning small amounts of polyolefins from extruder parts to facilitate disassembly of these parts. In this mode of operation, the Manufacturer states that:

- The Primary Burner heats the cleaning chamber to 800°F (427°C). Volatile materials are driven off as smoke.
- The Afterburner operating at 1400°F (760°C) for ½ second burns the smoke consuming the pollutants, leaving only invisible, odorless and harmless water vapor and carbon dioxide to exit the exhaust stack.

The oven uses natural gas and operates intermittently. There is no evidence that this process results in any TAP emissions during those occasional times that it is used for cleaning, as opposed to heat shrinking.

vi. *Box Stenciling Ink*

Response: This process no longer exists.

Confidential Business Information

ENTEK requests that portions of this submittal be managed as Confidential Business Information (CBI) and not be released in response to Public Record Act requests. ENTEK considers the identity of the suppliers of and the product names for the silicas, ultra-high molecular weight polyethylene, and adhesive for glass-mat lamination contained in the attachments:

- BH-23_and_Mixing_Activities-Silicas_UHMWPE_SDS.pdf
- Cut-To-Size_Adhesive_VOC_Content_and_SDS.pdf

to be highly confidential information. The justification for why these data qualify for trade secret protection is stated below. As required by Oregon Administrative Rule (OAR) 340-214-0130, each page of the attachment to this letter for which we are seeking confidential status is prominently marked as “Confidential Business Information--Do Not Release to Public.”

The identity of our suppliers and specific chemicals used in our production process meet the requirements of Oregon Revised Statute (ORS) §192.345(2) and OAR 340-214-0130 and are therefore exempt from disclosure. ENTEK employs a proprietary production method to manufacture battery separator material. The identity and suppliers of our production materials is highly proprietary. If one of our competitors was provided this information, it would provide them critical information about our process that they could use to their economic advantage.

The identity of these materials and their commercial sources are entitled to CBI status because: (1) it is information that cannot be patented, (2) the information is known only to a limited number of individuals within ENTEK who make every effort to ensure this information is not available to or obtained by competitors, (3) ENTEK derives economic value by maintaining the confidentiality of this information, and (4) maintaining this information as confidential provides ENTEK with a business advantage over its competitors. In support of these factors we note that ENTEK has never shared the names of these critical process inputs and their suppliers with anyone outside of a select group of “need to know” employees and contractors. This information is consistently maintained as CBI as our competitors are always keenly interested in knowing details about our operations. Sharing this

information with a competitor would identify highly confidential information about our formulae, our facility configuration and our production techniques. This is information we take great pains to keep confidential. If such information was released to the public, competitors could utilize that information to their advantage to steer sales away from ENTEK or to avoid incurring the expense of conducting their own research and development. This information derives independent economic value from not being generally known to the public or to other persons who can obtain economic value from its disclosure or use--the very definition of a trade secret. The business advantage that this intellectual property provides us over our competitors would be eliminated if DEQ were to release the identity of these process materials and/or suppliers to any member of the public.

We note that the data being provided are outside the scope of "emissions data." ENTEK recognizes that the total emissions from the facility are emissions data and would be subject to public scrutiny. However, the names of these specific process inputs and their suppliers are not.

If the Department determines that any portion of the data for which we are requesting trade secret protection are not immune from a Public Records Act request, we request that you return these materials, in their entirety, to us so that we can find a different means of providing the information you need without endangering the viability of our business.

With these answers we consider our response to your August 8 letter to be complete. Please let me know if you disagree or have any other questions.

Sincerely,



Kirk Hanawalt
Vice-President

Attachments:

- Revised CAO Emissions Inventory Spreadsheet
- BH-23_and_Mixing_Activities-Silicas_UHMWPE_SDS.pdf
- Cut-To-Size_Adhesive_VOC_Content_and_SDS.pdf

cc: Tom Wood
Kim Medford