Return To Index

APPENDIX D. CURRENT NON-TITLE V AIR QUALITY OPERATING PERMIT

United States Environmental Protection Agency
Region 10, Office of Air, Waste and Toxics
AWT-107
1200 Sixth Avenue
Seattle, Washington 98101

Permit Number: R10NT500200
Issued: Final 120406
AFS Plant I.D. Number: 53-077-00075

Non-Title V Air Quality Operating Permit

is issued in accordance with the provisions of 40 CFR § 49.139 and applicable rules and regulations to

Pace International, LLC

for operations in accordance with the conditions listed in this permit, at the following location:

Yakama Reservation
5661 Branch Road (Main Facility), Latitude: 46.405, Longitude: 120.498
3800 Branch Road (Cascade Facility), Latitude: 46.405, Longitude: 120.458
Wapato, WA 98951

Plant Manager

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A technical support document that describes the bases for conditions contained in this permit is also available.

Richard Albright, Director
Office of Air, Waste and Toxics
U.S. EPA, Region 10

12/4/06
Date

1. General Conditions

1.1. The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Air Act.

1.2. Compliance with the terms of this permit does not relieve or exempt the permittee from compliance with other applicable federal, tribal, state, or local laws or regulations.

2. Potential to Emit Limits and Work Practice Requirements

2.1. Boiler Fuel Sulfur Limit. The permittee shall not use in boilers 6 and 7 any liquid fuel that contains more than 0.05% by weight sulfur as determined using ASTM Methods D2880-03, D4294-03, or D6021-96 (re-approved 2001), as appropriate.

2.2. Shield Brite Volatile Organic Compound (VOC) Mass Balance Emission Limit. VOC emissions from all Shield Brite materials shall not exceed 80 tons per year as determined on a rolling 12-month basis by calculating the emissions (tons) for each month and adding the emissions calculated for the previous 11 months. VOC emissions shall be calculated monthly using Equation 1 below for all VOC-containing materials, where: the "Mass Balance VOC Losses" is a mass balance (in tons) performed using Equation 2 below (described in more detail in the accompanying Technical Support Document); the "Excluded VOC Purchased" includes (in tons) all organic compounds purchased during the month that are not included in the Mass Balance VOC Losses.

Equation 1: Monthly VOC emissions =
[(Mass Balance VOC Losses) + (Excluded VOC Purchased x 0.26)]

Equation 2: Mass Balance VOC Losses =
(Starting VOC Inventory + VOC Purchased) - (VOC Sold + Ending VOC Inventory)

2.3. Facility-Wide Hazardous Air Pollutant (HAP) Emission Limit. Aggregated facility-wide HAP emissions shall not exceed 8 tons per year as determined on a rolling 12-month average basis by calculating the HAP emissions (tons) for each month and adding the HAP emissions calculated for the previous 11 months. HAP emissions shall be calculated monthly by assuming that all HAPs in HAP-containing materials purchased each month are emitted.

2.4. Cascade Facility Baghouse Requirement. The permittee shall operate the Cascade facility baghouse as described in the non-Title V permit application at all times that the Cascade process operates. The permittee shall maintain the baghouse in good operating condition and according to manufacturer specifications.

3. Monitoring and Recordkeeping Requirements

3.1. Boiler Fuel Sulfur Records. The permittee shall obtain, record and keep records of the percent sulfur by weight from the vendor for each purchase of fuel or, if the vendor is unable to provide percent sulfur by weight information for each purchase of fuel, obtain a representative grab sample for each purchase and analyze the sample using the appropriate ASTM methods in Condition 2.1 above. For each grab sample taken and analyzed, record the date, sampling method, analysis method and results.

3.2. VOC Emissions Records. The permittee shall track, calculate and record monthly and rolling 12-month VOC emissions records for Shield Brite materials including the following:

3.2.1. VOC emissions determined using Equation 1;

3.2.2. VOC emissions determined by mass balance using Equation 2;

3.2.3. Inventory balances at the beginning and end of each month for VOC-containing products used in the monthly mass balance;

3.2.4. Inventory balances at the beginning and end of each month for VOC-containing raw materials used in the monthly mass balance;

3.2.5. Purchases of VOC-containing raw materials used in the monthly mass balance;

3.2.6. Sales of VOC-containing products and raw materials used in the monthly mass balance;

3.2.7. Purchases of VOC-containing raw materials excluded from the monthly mass balance;

3.2.8. VOC content (fraction) by volume in each VOC-containing material used in the monthly mass balance, including the source or basis of VOC content information;

3.2.9. Specific gravity of each VOC-containing material used in the monthly mass balance;

3.2.10. Material Safety Data Sheets for each VOC-containing material;

3.2.11. All calculations and assumptions.

3.3. HAP Emissions Records. The permittee shall track, calculate and record monthly and rolling 12-month facility-wide HAP emission records including the following:

3.3.1. Purchases of all HAP-containing materials.

3.3.2. HAP content (fraction) by volume in each HAP-containing material purchased, including the source or basis of HAP content information;

3.3.3. All calculations and assumptions.

3.4. Cascade Facility Baghouse Records. The permittee shall record all time periods when the Cascade process operates without the baghouse in operation. For each time period record, include the date, time and reason for non-operation of the baghouse.

3.5. Records Retention. All required records shall be kept on site for a period of five years and shall be made available to EPA upon request.

4. Reporting Requirements

4.1. No later than February 15 of each year, the permittee shall submit to EPA, along with the annual registration required by 40 CFR § 49.138(e)(2), an annual report containing:

4.1.1. A summary of all vendor fuel sulfur and grab sample records required by Condition 3.1 above for the previous calendar year. Included in the summary shall be the date and results of each fuel purchase and grab sample.

4.1.2. VOC emissions records required in Condition 3.2 above for the previous calendar year, except those records required in Condition 3.2.10.

4.1.3. HAP emissions records required in Condition 3.3 above for the previous calendar year.

4.1.4. A summary of the Cascade process baghouse operation records required in Condition 3.4 above for the previous calendar year.

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Technical Support Document

Non-Title V Air Quality Operating Permit

Permit Writer: Heather Valdez

Pace International, LLC

Yakama Reservation
Wapato, Washington

Purpose of Owner-Requested Non-Title V Operating Permit And Technical Support Document

Title 40 Code of Federal Regulations Section 49.139 establishes a permitting program to provide for the establishment of Federally-enforceable requirements for air pollution sources located within Indian reservations in Idaho, Oregon and Washington. The owner or operator of an air pollution source who wishes to obtain a Federally-enforceable limitation on the source's actual emissions or potential to emit must submit an application to the Regional Administrator requesting such limitation.

The United States Environmental Protection Agency (EPA) then develops the permit via a public process. The permit remains in effect until it is modified, revoked or terminated by EPA in writing.

This document, the technical support document fulfils the requirement of 40 CFR § 49.139(c)(3) by describing the proposed limitation and its effect on the actual emissions and/or potential to emit of the air pollution source. Unlike the air quality operating permit, this Technical Support Document is not legally enforceable. The permittee is obligated to follow the terms of the permit. Any errors or omissions in the summaries provided here do not excuse the permittee from the requirements of the permit.

Table of Contents

Cover Page 1

1. EPA Authority to Issue Non-Title V Permits 3

2. Facility Information 3

   2.1 Location 3
   2.2 Local Air Quality and Attainment Status 3
   2.3 General Description of Operations and Products 3
   2.4 Emissions 4

3. Description of Limits Requested 7

4. Regulatory Analysis and Permit Content 8

   4.1 Evaluation of Request for Limits 8
   4.2 Permit Content 10
   4.3 Other Federal Regulations 12

5. Permit Procedures 13

   5.1 Permit Revisions, Termination and Re-issuance 13
   5.2 Public Notice and Comment 13

6. Abbreviations and Acronyms 14

Appendix A Emission Inventory

   Summary of Facility Emission Inventory A1
   Boiler Emission Inventory Details A2
   Shield Brite VOC Emission Inventory Details A3
   Shield Brite VOC Data A4
   Cascade Facility Emission Inventory Details A5
   HAP Emission Inventory Details A6

1. EPA Authority to Issue Non-Title V Permits

On April 8, 2005 The United States Environmental Protection Agency (EPA) adopted regulations (70 FR 18074) codified at 40 CFR Parts 9 and 49, establishing Federal Implementation Plans (FIPs) under the Clean Air Act for Indian reservations in Idaho, Oregon and Washington. The FIPs, commonly referred to as the Federal Air Rules for Reservations (FARR), put in place basic air quality regulations to protect health and welfare on Indian reservations located in the Pacific Northwest. 40 CFR § 49.139 creates a permitting program for establishing Federally-enforceable requirements for air pollution sources on Indian reservations. This permit has been developed pursuant to 40 CFR § 49.139.

2. Facility Information

2.1 Location

The Pace International, LLC (Pace) plant consists of two operations located approximately one mile apart in Wapato, Washington, on the Yakama Reservation. The main facility is located at 5661 Branch Road (Latitude: 46.405 Longitude: 120.498). The Cascade facility is located at 3800 Branch Road (Latitude: 46.405 Longitude: 120.458).

The facility Standard Industrial Classification codes are as follows:

2899	Manufacturing miscellaneous chemical preparations, not elsewhere classified (Shield Brite Products ® (post harvest) at Main facility)
2879	Formulation and preparation of ready-to-use agricultural and household pest control chemicals from technical chemicals or concentrates. (Deadline ® products at Cascade facility)

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2.2 Local Air Quality and Attainment Status

The Yakama Reservation is in attainment with the national ambient air quality standards or is unclassifiable. The subject facility is not located in a designated nonattainment area. With respect to prevention of significant deterioration (PSD) impact evaluation, the majority of the reservation is classified as Class II lands, except for a small portion in the western part of the reservation, located within the boundary of the Mt. Adams National Wilderness Area, which is designated as Class I.

2.3 General Description of Operations and Products

The Pace plant produces two types of products: Shield Brite agricultural post harvest coatings at the main facility and Deadline Slug and Snail Bait at the Cascade facility. The types of Shield Brite coating products made at Pace vary with market demands.

The Shield Brite process is a batch process that involves mixing heated water with shellac and miscellaneous ingredients, which vary by product, until they dissolve. The Deadline process is a continuous

process that involves mixing dry ingredients that are extruded to form palletized slug and snail bait. The ingredients are flour, animal fat, and metaldehyde which is a registered pesticide but is not a HAP.

The Pace facility currently conducts the following operations that have the potential to emit (PTE) regulated air pollutants:

- Combustion devices – two oil-fired boilers B6 - 600 HP, and B7 - 700 HP, which provide steam needed for process heat;
- Waste water ponds for collection of waste water from cleaning of Shield Brite equipment;
- Storage tanks for diesel fuel and Shield Brite ingredients;
- Mixing tanks for the Shield Brite process; and
- Cascade facility process emissions from the manufacture of the Deadline product are captured and controlled by a fabric filter baghouse with accompanying ductwork and an induced draft 40 horsepower fan.

Pace has discontinued their line of fertilizer products, as of the summer of 2005, including the Argo Tech products. The following Argo Tech fertilizer manufacturing operations are no longer in operation:

- Argo Tech fertilizer mixing tank with an exhaust fan;
- Argo Tech fertilizer spray dryer
- Combustion source – Propane heater for the Argo Tech process

2.4 Emissions

The potential emissions from the Pace facility consist of combustion emissions from 2 boilers, VOC and a small amount of HAP emissions from the Shield Brite processes, and PM and PM10 emissions from the Cascade processes, as summarized in the table below. Detailed emission estimates are presented in Appendix A

Table 1. Facility Potential Emissions

Emission Unit	Emission Unit Description	Annual Emissions (tons per year)							
		CO	Lead	NOx	PM with FARR	PM10 with FARR	SO2 with FARR	VOC	HAPs
WAP - B6	Boiler 600 HP	3.93	9.89E-04	15.71	1.57	1.81	55.75	0.16	0.012
WAP - B7	Boiler 700 HP	4.58	1.2E-03	18.33	1.83	2.11	65.08	0.18	
WAP - Shield Brite	Storage Tanks, Mixing Tanks, Evaporation/ Sediment Ponds							Assumed greater than 100	0.314
WAP - Cascade	Cascades Dry Mix Process Ventilation				59.79	41.85			
Total Potential Emissions		8.51	0.002	34.04	63.19	45.77	120.84	Assumed greater than 100	0.326

As can be seen in Table 1, only two pollutants, SO_2 and VOC, are potentially emitted in amounts greater than 100 tons per year, the threshold for Title V major source status. The discussion below presents the emission estimation techniques for each of the primary processes and notes where emission limits will be necessary to lower the PTE below the major source threshold. The potential and actual emissions, after applying the limits from this permit, are presented in Tables 1c and 1d of Appendix A.

Boilers

The boilers, used to produce steam for process heating, are fired with fuel oil. AP-42 emission factors were used to estimate emissions. The boiler PTE is based on the maximum boiler capacity according to Pace. As seen above in Table 1, the pollutants emitted from the boilers are SO_2, NO_x, small amounts of CO, PM, PM10, and VOC, and very small amounts of lead and HAPs. SO_2 and VOC are the only pollutants emitted by the boilers for which the facility's PTE is greater than 100 TPY. The PTE for SO_2 will be reduced below this level by taking a limit on the sulfur content of the fuel fired in the boilers. The boiler VOC emissions will not need a specific limit because the plant-wide VOC emissions will be limited in such a way that the boiler VOC emissions at maximum rates will not cause a compliance problem. A plant-wide HAP limit will also be created in the permit; this limit will apply to the boilers as well. Emissions estimates for HAPs from the boilers are detailed in Table 1b of Appendix A.

Shield Brite

The pollutants emitted by the Shield Brite process are VOCs with a small amount of HAPs. Raw materials used to make Shield Brite products are purchased and brought to the facility. Those materials are then mixed to form various Shield Brite products which are then sold and shipped off site. Some of the raw materials are also sold and shipped off site. Not all of the raw materials and products are sold and shipped every month, leaving some to be stored on site for indefinite periods. It is difficult to estimate the VOC PTE emissions from the Shield Brite process for several reasons: variable raw materials and products; variable batch times for the Shield Brite products; excess mixing tanks available for use; the potential for organics reaching the ponds; unknown capacity of the facility to produce Shield Brite products; and a lack of off-the-shelf emission estimation techniques.

A mass balance of Shield Brite materials was used to estimate the amount of VOC-containing material that can not be accounted for in the facility, this "lost" amount is assumed to be emitted to give a conservative estimate of VOC emissions. The mass balance considers starting and ending inventories of VOC-containing raw materials and products that are on-site as well as purchases (deliveries to the plant) of raw materials and sales (shipments from the plant) of raw materials and products. Emissions are estimated then by assuming all of the VOC in the VOC-containing material that is lost is emitted to the air.

The equation for performing the mass balance is:

VOC Emitted = (Total Starting VOC Inventory + Total VOC Purchased)
- (Total VOC Sold + Total Ending VOC Inventory)

With more details added, the equation becomes:

$$VOC_{Emitted_Monthly} = \left(\left(\sum_{1}^{n} RM_{INV^{Start}} + \sum_{1}^{m} PR_{INV^{Start}}\right) + \sum_{1}^{n} RM_{Purchased}\right)$$
$$-\left(\left(\sum_{1}^{n} RM_{Sold} + \sum_{1}^{m} PR_{Sold}\right) + \left(\sum_{1}^{n} RM_{INV^{END}} + \sum_{1}^{m} PR_{INV^{END}}\right)\right)$$

Where:

Total Starting VOC Inventory = $\left(\sum_{1}^{n} RM_{INV^{Start}} + \sum_{1}^{m} PR_{INV^{Start}} \right)$

Total VOC Purchased = $\sum_{1}^{n} RM_{Purchased}$

Total VOC Sold = $\left(\sum_{1}^{n} RM_{Sold} + \sum_{1}^{m} PR_{Sold} \right)$

Total Ending VOC Inventory = $\left(\sum_{1}^{n} RM_{INV^{END}} + \sum_{1}^{m} PR_{INV^{END}} \right)$

n = The total number of raw materials that contain a VOCs compound that will be included in the mass balance (For example in the estimation used to determine the PTE n = 5 isopropyl alcohol, morpholine, versene 100, polysorbate 80 and ethyl alcohol)

m = The total number of products 1 through m that contain a VOCs compound 1 through n that will be included in the mass balance (For example in 2005 Pace made 114 products than contained one or more of the 5 VOC compounds that is included in the mass balance. Detailed information of the make up of each product is not described in this document because this information is confidential business information, however this information will be kept by Pace)

RM_{INV}^{START} = The starting monthly inventory mass of VOC in each raw material 1 through n (lbs)

PR_{INV}^{START} = The starting monthly inventory mass of VOC in each product 1 through m, that contains a VOC 1 through n (lbs)

$RM_{Purchased}$ = The mass purchased during the month of VOC for each raw material 1 through n (lbs)

RM_{Sold} = The mass of VOC that was sold with out processing during the month for each raw material 1 through n (lbs)

PR_{Sold} = The mass of VOC that was sold during the month in each product 1 through m, that contains a VOC 1 through n, (lbs)

RM_{INV}^{END} = The ending monthly inventory mass of VOC in each raw material 1 through n (lbs)

PR_{INV}^{END} = The ending monthly inventory mass of VOC in each product 1 through m, that contains a VOC 1 through n (lbs)

Whether purchased, sold or remaining on site as stored inventory, each VOC-containing raw material is first put in terms of the VOC it “represents” using the VOC content (fraction) for that material. The VOC fraction for each raw material can commonly be found on Material Safety Data Sheets (MSDS). The VOC content in each product is determined using the percentages of raw materials (and VOC fraction of the raw material) that make up the product. Pace can and should use other, more reliable sources for VOC content (e.g. direct measurements) when they are available. The volume of VOC is then converted from gallons to pounds (lbs) using the specific gravity for that VOC. This conversion is performed for each material and

then summed to determine the total mass (lbs) of VOCs for purchased raw materials, sold raw materials, sold products, and raw materials and products which remain in inventory.

Estimates of VOC emissions are based on information provided by Pace on the amounts of materials used in their processes. Actual emissions could be very different if Pace uses new raw materials, increases the amounts of materials used, or produces new products. Due to the difficulty for them to predict their production rates and potential VOC losses, Pace prefers to assume that the facility VOC emissions could potentially exceed 100 TPY. To ensure that they remain below the major source threshold, Pace has agreed to take a VOC limit of 80 tons per year. To address the small amount of HAPs that could be emitted by the Shield Brite process, a very conservative estimate will be made that all HAPs purchased could be emitted.

Cascade Facility
The Cascade facility emits PM and PM10 which are controlled by a baghouse. It is assumed that the baghouse must be in place to meet the FARR limits as described below in section 4.1. With the baghouse in place the actual PM and PM10 emissions estimates are well below 100 TPY.

Former Emissions
Emission estimates assume that no Argo Tech fertilizer manufacturing processes are used. It is also assumed that since the divestment of the line of fertilizer products the HAP compounds Manganese Carbonate, Manganese Sulfate, and Ethylene Glycol are no longer used. If Argo Tech fertilizer manufacturing were to resume, further evaluation would be needed to insure that the limits in this permit will keep emissions below the Title V threshold.

3. Description of Limits Requested

Pace is currently a Title V source; a Title V permit by EPA was issued to Pace on April 23, 2004. On September 1, 2005, EPA received an application for a Non-Title V Operating Permit from Pace requesting emission limits be established which will cap Pace's PTE to below the major source thresholds in Title V. This will allow Pace to operate without a Title V permit. Additional information in support of the non-Title V application was submitted to EPA in letters dated November 11, 2005, January 27, 2006, and February 21, 2006, and in email and phone conversations. Pace specifically requested the following limits:

- Limit particulate matter (PM), sulfur dioxide (SO2), carbon monoxide (CO), nitrogen oxides (NOx)and volatile organic compounds (VOC) to less than 80 tons per year per pollutant;
- Limit hazardous air pollutants (HAP) to less than 8 tons per year combined; and
- Limit fuel sulfur content to 0.05% to limit SO2 emissions.

Pace's request also reflects the fact that since the issuance of their Title V permit dated April 23, 2004, changes have occurred in the products that they produce that have enabled them to comfortably meet these limits.

- Pace no longer produces any fertilizer products, including the ArgoTech products.
- Pace no longer uses the HAP compounds: Manganese Carbonate, Manganese Sulfate, and Ethylene Glycol as ingredients in fertilizer products after the divestment of the line of fertilizer products.

4. Regulatory Analysis and Permit Content

4.1 Evaluation of Request for Limits to Avoid Major Source Threshold for Title V

The Clean Air Act requires all major sources to obtain a Title V permit to operate. A source is major if it has the potential to emit 100 tons per year or more of any Title V pollutant, 10 tons per year or more of any individual HAP, or 25 tons per year or more of all HAPs aggregated. PTE is based on a full year of operation at maximum capacities, considering emission limits if they are enforceable and reductions by control devices if they are required. Enforceable limitations, often called synthetic minor limits, can be established to reduce PTE.

Pace has requested that requirements be established to limit their PTE below Title V major source thresholds. In order to determine which pollutants must be limited by the permit, an inventory of air pollutant emissions was created (see Appendix A). An analysis for each pollutant of concern is presented below.

NOx, CO, and lead - Emissions of NOx, CO, and lead are not major. These pollutants are only emitted by the boilers. At maximum capacity for the boilers the PTE is 34.04 TPY for NOx, 8.51 TPY for CO, and 0.002 TPY for lead (see Table 1a in Appendix A). Therefore, no permit limits for NOx, CO, or lead are necessary to avoid Title V.

SO_2 - The FARR has a limit on the sulfur content of fuel oil to no more than 0.5% by weight. The FARR limit on the sulfur content in the fuel does not keep the PTE for SO_2 below 100 tons per year. With only the FARR limit in place the PTE for SO_2 is 120.84 TPY (see Table 1a in Appendix A); therefore, Pace has requested to further limit the sulfur content of the fuel to a maximum of 0.05% sulfur by weight. With the limit on the sulfur content of the fuel to a maximum of 0.05% sulfur by weight in place the PTE for SO_2 is reduced to 12.08 TPY (see Table 1c in Appendix A). This limit will be included in the permit.

VOC - The Shield Brite process and the boilers emit VOC emissions. Emissions from the boilers are based on emissions factors and are generally very low; less than 1 TPY for both boilers combined. Pace has requested a limit of 80 tons per year for total VOC emissions. This will ensure they are not a Title V source taking into account the assumptions that are made and any small inaccuracies that might occur in their accounting of materials. Given that no more than 1 TPY of VOC emissions will be emitted by the boiler on a potential basis, there is no need to limit or measure the boiler VOC emissions to ensure Pace remains below the major source threshold..

As mentioned above, estimating the VOC potential emissions from the Shield Brite process is difficult. The accounting and deduction necessary to perform the mass balance approach described above is also very resource intensive. Pace has expressed an interest in finding a simpler technique for estimating VOC emissions, particularly for the materials they use in small quantities. To do so, a conservative VOC emission factor based solely on the amount of raw material purchased was created based on the data available and the mass balance approach.

Using the mass balance approach for the five raw materials used in the greatest amounts (isopropyl alcohol, morpholine, versene 100, polysorbate 80 and ethyl alcohol) it was found that the percentage of VOC lost (unaccounted for) ranged from 6.8% to 7.8% for all but one material, ethyl alcohol. Analysis showed that 76.5% of the purchased raw material, ethyl alcohol, was lost. Pace believes the estimated loss of ethyl alcohol to be greatly inflated. To account for occasional outliers such as ethyl alcohol, this inflated percentage was included in the average percentage of the purchased raw materials that were assumed to be lost. This average percentage was found to be 21%. To make this factor more conservative, the average was arbitrarily increased by 25%, to become 26% (21% x 1.25). Understanding the general concept of Pace's

business - buying raw materials, mixing those materials into products and selling those products - it is easy to accept a 26% loss of all purchased materials as being a conservative “worst case.” While monthly purchases, and therefore VOC emission estimates, will vary, this approach should be representative over a one year period which is the averaging period in the permit used to determine compliance.

Applying this worst case VOC emission factor (26%) to the same data (raw materials purchased) as the mass balance, Pace would be considered a major source of VOC, while the mass balance approach results in Pace being a minor source. This indicates that the worst case approach (26% of raw material purchases) results in much more conservative (higher) emission estimates than the mass balance approach while requiring much less recordkeeping and analysis than the mass balance approach - only raw material purchase information is needed, rather than sales, storage inventory and product information and analysis. The permit will allow Pace to use either the worst case factor or the mass balance approach and then sum the results of each. Based on past production rates, Pace will need to limit the quantity of raw materials to which they apply the worst case factor, accounting for the remaining materials in the mass balance. An example of the estimates follows.

Using 2005 production rates, Pace’s estimated emissions from mass balance calculations, performed as described below in permit condition 2.2, including the 5 materials listed above are 29.09 TPY of VOC. Including these materials in the mass balance leaves 35 VOC containing materials. The purchased amount of the excluded materials adds up to 152.7 tons of material. Assuming that 26% of that amount is emitted gives estimated emissions of 39.7 tons per year VOC from excluded materials. This gives total estimated VOC emissions of 29.09 + 39.7 = 68.8 tons per year. Pace estimated that they produced about 70% of their capacity of Shield Brite products in 2005. If Pace were to realize their potential growth and exclude all of the same materials, the VOC emissions estimate could be up to 98.29 TPY. This is over Pace’s limit of 79 tons per year, but below the Title V threshold of 100 tons per year. In that case, Pace would need to include more materials in the mass balance to refine the estimate, thereby reducing their estimated emissions to below their limit.

As described in section 4.1, the permit will limit VOC emissions to 79 tons per year for the Shield Brite process, allowing two techniques for quantifying VOC emissions. Even with these conservative approaches for estimating emissions, Pace will comfortably be able to meet their limit, have a great deal of flexibility in their recordkeeping, and still maintain an ample margin for growth. By setting the Shield Brite process VOC limit well below the Title V major source threshold of 100, the source will remain minor without any VOC restrictions on the boiler. The total VOCs estimated to be emitted, using a combination of the mass balance approach and the 26% emission factor may also be used as emissions information required to be reported under the FARR regulation.

PM and PM10 - The boilers and Cascade process emit PM and PM10 emissions. Using emission factors, boiler emissions of PM and PM10 are estimated to be well below 100 tpy (less than 4 TPY combined for both PM and PM10, see Table 1a in Appendix A). The FARR has a PM emission limit that applies to the Cascade process and effectively limits PM10 emissions as well. Emissions from the cascade process are assumed to primarily pass through the Cascade baghouse. Operation and maintenance of the baghouse is assumed to be necessary to ensure emissions remain below the FARR limit. The concentration of PM in the exhaust from the bag house is limited to 0.1 gr/dscf by the FARR (see 40 CFR Part 49.125(d)(3)). If the maximum gas flow rate of the baghouse is applied, the potential emissions estimated from the baghouse are below 60 TPY. It is estimated, based on a PM factor for the baghouse provided by the applicant, that with the baghouse in place the PM and PM10 actual emissions will be 15.36 TPY and 12.29 TPY respectively (see Table 1c in Appendix A). The baghouse is assumed to be required in order to meet the FARR limits. The baghouse will also insure that the PTE for PM and PM10, both of which are unclear without the baghouse, are below the Title V threshold; therefore, a requirement for operation of the baghouse has been placed in this permit.

HAP – Emissions of HAPs are not major but a limit will be placed to insure that they do not become major. Only a small amount of HAPs are used as materials in the Shield Brite process and no HAPs are used in the Deadline processes. There are also a small amount of HAP emissions from the fuel combusted in the boiler. Based on emission factors, the estimate of PTE HAP emissions from the boilers is 0.012 TPY. In 2005 the compounds that are considered HAPs that were used in the Shield Brite process were Diethanolamine, and Glycol Ethers. The total amount of these compounds purchased in 2005 was 0.314 tons. Therefore, even if the total amount purchased was to be emitted Pace would still be well below the HAP threshold for Title V even without any restrictions on the boiler.

Pace also has Hydrochloric Acid on site, which is a HAP, however, this is not processed. Hydrochloric Acid is purchased by Pace, relabeled, and resold but the containers are never opened and so there will be no emissions. To ease the recordkeeping burden while maintaining a very conservative estimate Pace will assume that all HAPs purchased could be emitted.

To maintain flexibility in the compounds used in the Shield Bright process and still remain well below the Title V threshold for HAPs, a limit with monitoring and recordkeeping will be placed of no more than 8 tons per year of all HAPs aggregated. Because the amount purchased is so little and for ease in recordkeeping, it will be assumed that the entire amount purchased is emitted. Even with this very conservative approach it is expected that Pace will be well below their permit limit.

This analysis of the limits necessary to remain below major source threshold for Title V is based on the assumption that there are no longer any fertilizer products, including the ArgoTech products, or any products that contain HAP compounds Manganese Carbonate, Manganese Sulfate, and Ethylene Glycol as ingredients produced at Pace. Further analysis would be needed to evaluate Title V applicability if additional products lines were introduced. An estimate of Pace's emissions, as limited by the permit is also included in Table 1c of Appendix A.

4.2 Permit Content

The permit includes the requested PTE limits as well as monitoring, recordkeeping and reporting requirements necessary to assure compliance with the limits. Each section of the permit is discussed below. The permit is organized into 4 sections as follow:

1. General Conditions
2. PTE Limits and Work Practice Requirements
3. Monitoring and Recordkeeping Requirements
4. Reporting Requirements

A description of each condition in the permit follows.

General Conditions
This section of the permit contains conditions of a general nature that apply to the facility.

<u>Permit Condition 1.1</u> requires Pace to comply with the conditions in the permit.

<u>Permit Conditions 1.2</u> explains that the permit does not relieve the permittee from complying with any other rules or requirement that apply. This permit establishes owner-requested limits and related compliance assurance provisions to restrict Pace's PM, VOC and SO_2 PTE; such that, Pace is no longer subject to Title V. It does not contain other Clean Air Act requirements to which the Pace facility is or may be subject, such as the FARR; New Source Performance Standards, 40 CFR Part 60; and National Emissions Standards for Hazardous Air Pollutants, 40 CFR Part 61, and 63. As specified in Condition 1.2, compliance with the

terms of this permit in no way relieves or exempts Pace of compliance with other applicable Clean Air Act requirements or of any other applicable federal, tribal, state, or local law or regulation. If in the future, Pace chooses to relax the limits in Section 2 such that the facility becomes a major Title V source, 40 CFR Part 71 will again apply.

PTE Limits and Work Practice Requirements

Permit Condition 2.1 Boiler Fuel Sulfur Limit - This condition limits the amount of sulfur that any liquid fuel burned in the boilers can contain. This limit, together with the capacity of the boilers, assures that the SO2 emissions from the boilers will not exceed 100 tpy.

Permit Condition 2.2 Facility-wide Volatile Organic Compound Emission Limit - This condition limits the VOC emissions from the entire facility on a rolling 12-month basis. Compliance with the limit assures that the Pace facility is not a major source of VOC emissions. Pace has requested a limit of 80 tpy on their total VOC emissions. The PTE from the boilers is expected to be less than 1 tpy. Therefore a limit of 80 tpy is set for all VOC emissions from the Shield Brite process. VOC emissions shall be calculated monthly using equation 1 below for all VOC-containing materials, which sums emissions estimated using the mass balance approach and emissions estimated using the worst case emission factor or 26%. The "Mass Balance VOC Losses" is a mass balance (in tons) performed using equation 2 below using the starting VOC inventory for the month, the VOC purchased for the month, the VOC sold for the month, and the ending VOC inventory for the month. The inventory is described in more detail in section 2.4 above. The "Excluded VOC Purchased" includes (in tons) all organic compounds purchased during the month that are not included in the VOC losses mass balance. The "worst case" emission factor of 0.26 is applied to the purchased VOC that were excluded from the mass balance.

Equation 1:
Monthly VOC emissions = [(Mass Balance VOC Losses) + (Excluded VOC Purchased) x 0.26]

Equation 2:
Mass Balance VOC Losses = (Total Starting VOC Inventory + Total VOC Purchased) - (Total VOC Sold + Total Ending VOC Inventory)

Pace can exclude materials from the mass balance to reduce their recordkeeping burden, provided that Pace assumes that 26% of the purchased amount of the excluded materials is emitted and the sum of the emissions calculated from the mass balance and those from the excluded materials is not greater than 79 tons per year.

Permit Condition 2.3 Facility-wide Hazardous Air Pollutant Emission Limit - This condition limits the HAP emissions from the entire facility on a rolling 12-month basis. Compliance with the limit assures that the Pace facility is not a major source of HAP emissions.

Permit Condition 2.4 Cascade Facility Baghouse Requirement - This condition requires that the baghouse be operated and maintained. Operation of a maintained baghouse helps assure the emission estimation assumptions remain representative into the future. Compliance with the requirement assures that the Pace facility is not a major source of PM or PM_{10} emissions.

Monitoring and Recordkeeping Requirements

Permit Condition 3.1 Boiler Fuel Sulfur Records - This condition requires Pace to maintain purchase records or equivalent from the fuel supplier that show the sulfur content of the fuel oil delivered to the facility on an as-received basis is a maximum of 0.05% sulfur by weight. Purchase records shall be used to document the amount of fuel combusted during each month. If purchase records are not available from the

vendor, Pace will be responsible for sampling and analyzing the sulfur content of each fuel purchase to verify compliance with the sulfur content limit. The analytical method that must be used is specified in the condition.

Permit Condition 3.2 VOC Emission Records - This condition requires Pace to keep records of their material purchases, sales and inventory and to use those records to calculate VOC emissions each month. The condition lists the materials and records that should be tracked. Pace has relied upon MSDS to determine the VOC content of their materials. Permit requirement 3.2.8 requires the source or basis of VOC content information. Pace needs to say whether they are using MSDS, have actual sample data, or something else. Due to the inherent inaccuracies of MSDS, EPA would prefer to see data specific to materials used by Pace. Information collected according to the recordkeeping requirements in Permit Condition 3.2 will be used to estimate VOCs each month using the equations that are described in permit condition 2.2 including a total facility mass balance. It will be assumed that the emissions of VOCs from the mass balance for the Pace facility will be the amount of unaccounted VOCs in the mass balance.

Records of the data for the mass balance materials and the excluded materials are required. For the excluded material Pace will be required to report the names of these compounds, their MSDS, and the amounts that were purchased each month. For the material that are included in the mass balance, Pace must also include the amounts of those materials, including raw materials and materials in products, in starting and ending inventory, and the amount of materials in products that are sold each month. The total VOC emissions will be the sum of the results from the mass balance added to 26% of the purchased amount of the excluded materials.

Permit Condition 3.3 HAP Emission Records – This condition requires recording of all HAPs purchased. For ease in recordkeeping it will be assumed that all HAPs purchased are emitted. There is such a small amount of HAPs purchased that it is expected that Pace should have no problem meeting their limits even with this very conservative estimate.

Permit Condition 3.4 Cascade Facility Baghouse Records - This condition requires recording of all time periods when the Cascade process operates without the baghouse in operation. The PTE estimating in Appendix A assumes that the operation of the baghouse is necessary to comply with the FARR PM limit. Operation of the Cascade facility without the baghouse in operation could be credible evidence of a FARR PM limit violation.

Permit Condition 3.5 Records Retention - This condition requires the permittee to maintain copies of all required records a period of five years including emissions calculations and all supporting documentation.

Reporting Requirements

Permit Condition 4.1 Reporting Requirements - This condition requires Pace to annually submit to EPA a report which includes the boiler fuel sulfur, VOC emissions and supporting monthly totals information, HAP emissions, and Cascade facility baghouse records. For ease in coordinating submittals, this report is required to be submitted concurrently with the annual FARR registration submittal as specified in 40 CFR § 49.139(f). For Pace, the due date for these reports is February 15 of each year.

4.3 Other Federal Regulations

EPA is obligated under the Endangered Species Act (ESA), Section 7, 16 U.S.C. §1531, to consider the impact that a federal project may have on listed species or critical habitats. Based on the fact that the permit does not specifically authorize construction of an emission source and that the permit contains a voluntarily-requested emission limit to reduce potential emissions, it is EPA's conclusion that the issuance of this permit to Pace will not affect a listed specie or critical habitat. Therefore, no additional requirements will be

added to this permit for ESA reasons. EPA's no effect determination concludes EPA's obligations under Section 7 of the ESA (See Endangered Species Consultation Handbook: Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act, FWS and NMFS, March 1998, at Figure 1).

National Environmental Policy Act (NEPA) Review - Under Section 793(c) of the Energy Supply and Environmental Coordination Act of 1974, no action taken under the Clean Air Act shall be deemed a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969. This permit is an action taken under regulations implementing the Clean Air Act and is therefore exempt from NEPA.

National Historic Preservation Act (NHPA) – No part of the Pace facility is listed in the National Register. There will be no modifications made to any existing. Consequently, no adverse effects are expected, and further review under NHPA is not indicated.

5. Permit Procedures

5.1 Permit Revisions, Termination and Reissuance

This section provides details on procedures for revision, termination, revocation and re-issuance of non-Title V operating permits. Pace may request EPA to revise the conditions of this permit by submitting an application that contains the information specified in 40 C.F.R. 49.139(d). EPA will revise the permit using the same procedures that apply to initial permit issuance.

If Pace wishes to terminate the permit, a written request must be submitted to EPA explaining the reasons for the request and, if necessary for continued operation, submitting applications for any Clean Air Act permits or approvals that Pace Wapato avoided by establishment of the limits contained in this permit.

This permit may be terminated, revised, or revoked and reissued by EPA for cause. Cause exists to terminate, revise, or revoke and reissue this permit under the following circumstances:

1. This permit contains a material mistake;
2. Inaccurate statements were made in establishing the terms or conditions of this permit;
3. The permittee fails to comply with any condition of this permit; or
4. This permit must be terminated, revised, or reopened and reissued to assure compliance with Clean Air Act requirements.

EPA will use the same proceedings to terminate, revise, or revoke and reissue a permit for cause as for initial permit issuance. Before initiating proceedings to terminate, revise, or revoke and reissue a permit, EPA will provide Pace Wapato at least 30 days' advance written notice of EPA's intent to terminate, revise, or revoke and reissue the permit, except that EPA may provide a shorter notice period in the case of an emergency.

5.2 Public Notice and Comment

As required under 40 CFR § 49.139(c), all draft owner-requested operating permits must be publicly noticed and made available for public comment. For this permit action, the requirements of 40 CFR § 49.139(c)(5) are as follow:

1. Make available for public inspection, in at least one location in the area affected by the air pollution source, a copy of the draft operating permit prepared by EPA, the technical support document for the draft permit, the application, and all supporting materials (see 40 CFR 49.139(c)(5)(i));
2. Publish public notice for this draft permit, by prominent advertisement in a newspaper of general circulation in the area affected by this source, of the availability of the draft permit to operate and supporting materials and of the opportunity to comment. Where possible, notices will also be made in the Tribal newspaper (see 40 CFR 49.139(c)(5)(ii));
3. Provide copies of the notice to the owner or operator of the air pollution source, the Tribal governing body, and the Tribal, State and local air pollution authorities having jurisdiction in areas outside of the Indian reservation potentially impacted by the air pollution source (see 40 CFR 49.139(c)(5)(iii)); and
4. Provide for a 30-day period for submittal of public comments, starting upon the date of publication of the notice. If requested, the Regional Administrator may hold a public hearing and/or extend the public comment period for up to an additional 30 days (see 40 CFR 49.139(c)(5)(iv)).

40 CFR § 49.139(c) also contains requirements that apply after the draft permit is made available for public comment. These additional requirements must be satisfied prior to issuance of the final permit:

1. EPA will accept comments on the draft permit, during the 30 day public comment period (see 40 CFR 49.139(c)(5)(iv));
2. After the close of the public comment period, EPA will consider all comments received and prepare a final permit to operate and final technical support document. The final technical support document will include a response to all comments received during the public comment period (see 40 CFR 49.139(c)(6));

After issuance of the final permit and technical support document, the following requirements must also be satisfied:

1. Make the final permit and technical support document available at all of the locations where the draft permit was made available (see 40 CFR 49.139(c)(7)); and
2. Send the final permit and technical support document to all persons who provided comments on the draft permit to operate (see 40 CFR 49.139(c)(7)).

5.3 Response to Public Comments

The draft permit and technical support document were made available during a public comment period that lasted from October 20, 2006 to November 24, 2006. No comments were received during this time.

6. Abbreviations and Acronyms

CFR	Code of Federal Regulations
EPA	United States Environmental Protection Agency (also U.S. EPA)
FARR	Federal Air Rules for Reservations
FR	Federal Register
HAP	Hazardous air pollutant
NESHAP	National Emission Standards for Hazardous Air Pollutants (Title 40 CFR Parts 61 and 63)
PSD	Prevention of significant deterioration
PTE	Potential to emit
TPY	Tons per year
VOC	Volatile organic compound

APPENDIX A
Pace International, LLC
Wapato, WA, Yakama Reservation
NON - TITLE V Summary of Facility Emission Inventory

Total Potential Emissions

Emission Unit	Emission Unit Description	Annual Emissions (tons per year) CO	Lead	NOx	PM with FARR	PM10 with FARR	SO2 with FARR	VOC	HAPs
WAP - B6	Boiler 600 HP	3.93	9.89E-04	15.71	1.57	1.81	55.75	0.16	0.012
WAP - B7	Boiler 700 HP	4.58	1.2E-03	18.33	1.83	2.11	65.08	0.18	
WAP - Shield Brite VOCs	Storage Tanks, Mixing Tanks, Evaporation/Sediment Ponds							Assumed greater than 100	0.314
WAP - Cascade	Cascades Dry Mix Process Ventilation				59.79	41.85			
Total Potential Emissions		8.51	0.002	34.04	63.19	45.77	**120.84**	**Assumed greater than 100**	**0.326**

Table 1a

Total Potential HAP Emissions

Emission Units WAP-B6 and WAP-B7 Boilers

Compound	Total Annual (tons/yr)
Arsenic	**0.0010**
Beryllium	**0.0007**
Cadmium	**0.0007**
Chromium	**0.0007**
Lead	**0.0021**
Manganese	**0.0014**
Mercury	**0.0007**
Nickel	**0.0007**
Selenium	**0.0036**
Total of all HAPs (tons/year):	**0.012**

Table 1b

Shield Brite Processes

Shield Brite HAP Compound	Total Purchased = Emissions (tons/yr)
Diethanolamine	0.100
Glycol Ether EB	0.210
Glycol Ether 2-Butoxethonal	0.004
Total of all HAPs from Shield Brite Processes (tons/year):	0.314

Total Allowable Emissions Estimates - Requiring the use of a baghouse, and appling voluntary limits on fuel sulfur content and VOC emissions

Emission Unit	Emission Unit Description	Annual Emissions (tons per year) CO	Lead	NOx	PM with baghouse	PM10 with baghouse	SO_2 with fuel sulfur limit	VOC Allowable Limit	HAPs
WAP - B6	Boiler 600 HP	3.93	9.89E-04	15.71	1.57	1.81	5.58	0.16	0.012
WAP - B7	Boiler 700 HP	4.58	1.2E-03	18.33	1.83	2.11	6.51	0.18	
WAP - Shield Brite VOCs	Storage Tanks, Mixing Tanks, Evaporation/Sediment Ponds							79.00	0.314
WAP - Cascade	Cascades Dry Mix Process Ventilation				11.96	8.37			
Total Allowable Emissions		8.51	0.002	34.04	15.36	12.29	12.08	79.34	0.326

Table 1c

Total Anticipated Actual Emissions Estimates

Emission Unit	Emission Unit Description	Annual Emissions (tons per year) CO	Lead	NOx	PM with baghouse	PM10 with baghouse	SO_2 with fuel sulfur limit	VOC Actual Emissions Estimate	HAPs
WAP - B6	Boiler 600 HP	3.93	9.89E-04	15.71	1.57	1.81	5.58	0.16	0.012
WAP - B7	Boiler 700 HP	4.58	1.2E-03	18.33	1.83	2.11	6.51	0.18	
WAP - Shield Brite VOCs	Storage Tanks, Mixing Tanks, Evaporation/Sediment Ponds							68.80	0.314
WAP - Cascade	Cascades Dry Mix Process Ventilation				11.96	8.37			
Total Actual Emissions		8.51	0.002	34.04	15.36	12.29	12.08	69.14	0.326

Table 1d

Pace International, LLC
Wapato, WA, Yakama Reservation
Emission Inventory Details - Boilers

Emission Unit: **WAP-B6** **Oil-Fired Boiler** Manufacturer: Ray Burner Model: # 600
Activity: **Diesel #2 Oil-Fired Boiler** Date Manufactured: 1969 Serial: #NB27104

Maximum Rating	Annual Operating Hours	Emission Factors, lb/10^3 gal							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
25.1 MMBtu/hr	8760	5	0.00126	20	2	2.3	71	0.20	3.93	9.9E-04	15.71	1.57	1.81	55.75	0.16

Table 2a

Basis for rating: 600 HP **[(600 hp)*(33475 Btu/boiler hp)*(1/0.8)] / 10^6 = 25.1 MMBtu/hr**
Assumed efficiency = 0.8

Emission Unit: **WAP-B7** **Oil-Fired Boiler** Manufacturer: Continental Model: #B700DW
Activity: **Diesel #2 Oil-Fired Boiler** Date Manufactured: 1976 Serial: #753726436A

Maximum Rating	Annual Operating Hours	Emission Factors, lb/10^3 gal							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
29.3 MMBtu/hr	8760	5	0.00126	20	2	2.3	71	0.20	4.58	1.2E-03	18.33	1.83	2.11	65.08	0.18

Table 2b

Basis for rating: 700 HP **[(700 hp)*(33475 Btu/boiler hp)*(1/0.8)] / 10^6 = 29.3 MMBtu/hr**
Assumed efficiency = 0.8

CO factor: AP-42 September 1998, Table 1.3-1, Boiler < 100MMBtu/hr, Distillate oil

Lead factor: AP-42 September 1998, Table 1.3-10, #2 fuel oil (9 lb/10^{12} Btu) (9 lb/10^{12} Btu) * (140 MMBtu/10^3 gal) = 0.00126 lb/10^3 gal

NOx factor: AP-42 September 1998, Table 1.3-1, Boiler < 100MMBtu/hr, Distillate oil

PM factor: AP-42 September 1998, Table 1.3-1, Boiler < 100MMBtu/hr, Distillate oil (filterable)

PM10 factor AP-42 September 1998, Table 1.3-2, Distillate oil (1.3 lb/10^3 gal Condensable) + Table 1.3-6, Distillate oil (1.0 lb/10^3 gal PM10 Filterable)

SO2 factor: AP-42 September 1998, Table 1.3-1, Boiler < 100MMBtu/hr, Distillate oil (142*S lb/10^3 gal)
S = 0.5 Maximum sulfur content allowed by FARR Limit (40 CFR 49.130)

VOC factor: AP-42 September 1998, Table 1.3-3, Industrial boiler, Distillate oil, NMTOC

Emission factors converted from lb/1000 gal to lb/MMBtu based on heat content of fuel: 140 MMBtu/10^3 gal

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Allowable Emissions with limit on sulfur content of the fuel to S = 0.05 % sulfur by weight:

SO2 factor: AP-42 September 1998, Table 1.3-1, Boiler < S = 0.05 Limit requested on sulfur content

Emission Unit: **WAP-B6** **Oil-Fired Boiler**
Activity: **Low Sulfur Diesel #2 Oil-Fired Boiler**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/10^3 gal							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
25.1 MMBtu/hr	8760	5	0.00126	20	2	2.3	7.1	0.20	3.93	9.9E-04	15.71	1.57	1.81	5.58	0.16

Table 2c

Emission Unit: **WAP-B7** **Oil-Fired Boiler**
Activity: **Low Sulfur Diesel #2 Oil-Fired Boiler**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/10^3 gal							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
29.3 MMBtu/hr	8760	5	0.00126	20	2	2.3	7.1	0.20	4.58	1.2E-03	18.33	1.83	2.11	6.51	0.18

Table 2d

Pace International, LLC
Wapato, WA, Yakama Reservation
Emission Inventory Details - Shield Brite VOCs

Emission Unit: **WAP-3s Storage Tanks**
Activity: **Storage of materials for the Shield Brite manufacturing process**

Emission Unit: **WAP-3s Mixing Tanks For Shield Brite Product**
Activity: **Process involves mixing heated water with shellac and miscellaneous non-HAP ingredients, which vary by**

Emission Unit: **WAP-2 Evaporation Ponds**
Activity: **Residue and cleanup losses from Shield Brite manufacturing process**

It is difficult to estimate the PTE emissions from the Pace facilities therefore Pace has chosen to assume that the PTE is greater than 100 TPY.

Pace will limit their total VOC emissions from the Shield Brite processes to 79 TPY.

VOC emissions shall be calculated monthly using Equation 1 below for all VOC-containing materials, where: the “Mass Balance Measured VOC Losses” is a mass balance (in tons) performed using Equation 2 below which is described it more detail in the Technical Support Document Section 4.2.2. The “Excluded VOC Purchased” includes (in tons) all organic compounds purchased during the month that are not included in the Mass Balance Measured VOC Losses.

Equation 1: Monthly VOC emissions = [(Mass Balance Measured VOC Losses) + (Excluded VOC Purchased) x 0.26]

Equation 2: Mass Balance Measured VOC Losses = (Total Starting VOC Inventory + Total VOC Purchased) - (Total VOC Sold + Total Ending VOC Inventory)

The following formula was used to calculate the VOC content of each product. The amount of VOC contributed by each of the 4 VOC materials of concern, for each product, and all of the intermediary blends, were summed to obtain the total lbs of VOC for each product. Pace will maintain those calculations on file.

Amount Product "A" (gal) *	Fraction of one of the 4 VOC materials in Product "A" *	Specific gravity (density of material relative to the density of water) *	Density of water (8.345 lb/gal) =	Amount VOC in Product "A" (lbs)

	(tons)
Total Purchased Amount of Materials Excluded From Mass Balance 2005	152.74
26% of Total Purchased Excluded Materials = Estimated Emissions From Excluded Materials	39.71
Total Estimated VOC Emissions from Mass Balance	29.09
Total VOC emissions 2005	68.80

Table 3a

Projected growth	Curently using about 70% of Shield Brite capacity
Projected emissions if growth to capacity	**98.29 TPY**

Pace International, LLC
Wapato, WA, Yakama Reservation
Emission Inventory Details - Shield Brite VOCs

Mass Balance Measured VOC Losses = (Total Starting VOC Inventory + Total VOC Purchased) - (Total VOC Sold + Total Ending VOC Inventory)

2005 VOC EMISSION MATERIAL BALANCE	IPA (lbs)	MORPH (lbs)	E. ALC (lbs)	VERSENE 100 (lbs)	Polysorbate 80 (lbs)	total (lbs)	total (ton)
START VOC INVENTORY	48450	27452	2580	55203	61771	195456	97.73
TOTAL PURCHASED VOC RAW MATL	262924	245136	1121	95017	182390	786588	393.29
TOTAL VOC SOLD 2005	204353	191003	1145	97765	189763	684029	342.01
END VOC INVENTORY	88874	63118	1699	45954	40201	239846	119.92
Amount Unacounted For = Emissions (lbs)	18148	18467	857	6501	14197	58170	
Amount Unacounted For = Emissions (tons)	9	9	0	3.25	7.0985		29.09

Table 4a

	IPA (lbs)	MORPH (lbs)	E. ALC (lbs)	VERSENE 100 (lbs)	Polysorbate 80 (lbs)
% of Purchased That is Unacounted For	6.90%	7.53%	76.49%	6.84%	7.78%

Ave % loss without outlier 7.27%	Ave % loss 21.11%	Ave % loss X 1.25 26.39%

All Pace VOC Materials Excluded From Mass Balance	
Chemical	**Total Purchased 2005 (lbs)**
Butanol	370
Herbalox	0
Methyl Cottonseed (T-41)	133460
Methyl Salicylate	0
Pluronic L-62	1844
Propionic Acid	0
Span 20	2740
Span 80	1884
Surfynol TGE	3035
Tergitol NP 12	7704
Triton BG-10	5750
Tween 60	2820
Calfax DB 45	0
Sorbitol 70% soln.	40
Methoxypropanamine	395
Butyl Acetate	0
Silicone DC 200 Food Grade	11
Glycerine	0
Tween 21	0
Glycol Ether	415
Imazalil 500 EC (fungaflor)	12157
Dipropylene Glycol	2100
Propylene Glycol USP	51408
IGEPAL Co-430	587
IGEPAL 9N6 CO 530	257
IGEPAL 9N9 CO 630	3515
IGEPAL 9N8 CO-610	10230
Mazclean	2700
Tergitol 15S9	450
Tergitol NP 6	0
Triethanolamine 85%	0
Triton X-114	1410
Peg 400	1545
Clove Leaf Oil	49827
Dowicide	8817
Total (lbs)	305471
Total (tons)	152.7355

Table 4b

Pace International, LLC
Wapato, WA, Yakama Reservation
Emission Inventory Details - Cascade Facility

Emission Unit: **WAP-4 Cascades Facility Dry Mix Unit and Material Handling**
Activity: **Dry ingredients are mixed to form slug and snail bait**
Ingredients: **Flour, animal fat, metaldehyde, DB-27**

Potential Emissions Estimate using FARR Limit:

Annual Controlled Emissions (tons per year)						
CO	**Lead**	**NOx**	**PM**	**PM10**	**SO2**	**VOC**
			59.79	41.85		

Table 5a

Fan airflow 15924 ACFM assume ACFM near standard temp, moisture, and pressure so ACFM = dscf

Fan Horsepower 40 hp
Fan Efficiency 0.5
Headspace pressure 8 " water
1 pound = 7000 grains

Farr Limit 0.1 gr/dscf (see 40 CFR Part 49.125(d)(3))

PM Factor from FARR 13.65 lbs/hr

Equation for calculation of PM factor using FARR limit:
0.1 gr/dscf * 15924 dscf/min * 60 min/hr * 1 lb/7000gr = 13.65 lb/hr

Cumulative Wt % of PM10 0.7
(Conservative estimate based on AP42 Appendix B.1 section 9.9.1 Particle size distribution data for Feed and Grain Mills and Elevators)

Actual emissions estimate when controled by baghouse

Annual Controlled Emissions (tons per year)						
CO	**Lead**	**NOx**	**PM**	**PM10**	**SO2**	**VOC**
			11.96	8.37		

Table 5b

Estimated emissions when controlled by a baghous 0.02 gr/dscf Basis: Estimate from application

PM Factor from baghouse 2.73 lbs/hr

Equation for calculation of PM factor using Pace baghouse emission estimate:
0.02 gr/dscf * 15924 dscf/min * 60 min/hr * 1 lb/7000gr = 2.73 lb/hr

Pace International, LLC
Wapato, WA, Yakama Reservation
Emission Inventory Details - HAPs

Emission Units: **WAP-B6, Oil-fired Boiler**
WAP-B7, Oil-fired Boiler

Production Information

Potential Hours of Operation	8,760	hours/yr
Maximum Heat Input WAP-B6	25.10	MMBtu/hr
Maximum Heat Input WAP-B7	29.30	MMBtu/hr
Maximum Combined Heat Input	54.4	MMBtu/hr
Maximum Annual Heat Input @ 8760 hr/yr	476,544	MMBtu/yr

Boiler Combustion HAP Compound	Emission Factor[1] (lb/10^{12} BTU)	Emission Factor Rating	Total Annual (lb/yr)	Total Annual (tons/yr)
Arsenic	4.00	E	1.906	**9.53E-04**
Beryllium	3.00	E	1.430	**7.15E-04**
Cadmium	3.00	E	1.430	**7.15E-04**
Chromium	3.00	E	1.430	**7.15E-04**
Lead	9.00	E	4.289	**2.14E-03**
Manganese	6.00	E	2.859	**1.43E-03**
Mercury	3.00	E	1.430	**7.15E-04**
Nickel	3.00	E	1.430	**7.15E-04**
Selenium	15.00	E	7.148	**3.57E-03**
Total of all HAPs based on combined heat input (tons/year):				**0.012**

Table 6a

[1] AP-42 September 1998, Table 1.3-10

Emission Units: **Shield Bright Process**

HAPs can not be emited in amount greater than purchased. A concervative estimate is that all the HAPs purchased are emitted except Hydrocloric Acid which is not procesed but just purchased, relabeled, and sold

Shield Brite HAP Compound	Total Purchased = Emissions (tons/yr)
Diethanolamine	0.100
Glycol Ether EB	0.210
Glycol Ether 2-Butoxethonal	0.004
Total of all HAPs based from Shield Brite Processes (tons/year):	0.314

Table 6b

APPENDIX E. TEMPORARY BOILER APPROVAL LETTER

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 155
Seattle, WA 98101-3188

AIR & RADIATION
DIVISION

OCT - 8 2019

Mr. William Osbourne
Senior EH&S Manager
Pace International, LLC
5661 Branch Road
Wapato, Washington 98951

Dear Mr. Osbourne:

The U.S. Environmental Protection Agency, Region 10 has reviewed your letter, dated September 5, 2019, regarding the temporary use of a rental boiler to allow necessary repairs to your existing boiler at your facility in Wapato, Washington. Because the source is located within the exterior boundaries of the Yakama Reservation, the U.S. Environmental Protection Agency, Region 10 is the permitting authority. After reviewing the specifications of the rental boiler and considering the circumstances of the project, Region 10 agrees that the project is not subject to minor new source review permitting. You may proceed with the repairs.

Your letter explained that your Boiler B8, which is fueled with propane or fuel oil, has cracked tube welds that need repair. The repair is expected to take five to seven days during the month of November 2019. During that time, you plan to use a rental boiler that has the same capacity (800 horsepower), is fueled with the same fuels and has a low-NOx burner. Your existing facility is considered a minor source for construction permitting purposes. If the project does not result in emission increases that exceed the tribal minor new source review permitting program thresholds (see Table 1 to 40 CFR 49.153), it is not required to get a construction permit. Given the similar size of and fuel used in the two boilers and the project timeframe, no change in emissions is expected. The project, therefore, is not subject to air permitting.

Region 10 is currently processing an application for a synthetic minor permit that applies to your facility. In your letter, you also suggested addressing future use of the rental boiler in the synthetic minor permit. Region 10 will address that request when the synthetic minor source permit is drafted, likely later this fall.

If you have any questions, please contact Doug Hardesty at (208) 378-5759 or hardesty.doug@epa.gov or me at (206) 553-1679 or mcfadden.kelly@epa.gov.

Sincerely,

Kelly McFadden, Chief
Air Permits & Toxics Branch

cc: Ms. Elizabeth Sanchey
Environmental Management Program Manager
Yakama Nation