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VIA EMAIL: robert.koster@ecy.wa.gov

Robert Koster, P.E.
Washington Department of Ecology
Eastern Regional Office
4601 N. Monroe Street
Spokane, WA 99205

Re: Public Comments on Preliminary Determination for Approval Order No. 16AQ-E031.

Dear Mr. Koster –

On behalf of Basin Disposal, Inc. (Basin), I am submitting public comments on the Department of Ecology's (Ecology) November 1, 2016 Preliminary Determination for Approval Order No. 16AQ-E031 (Preliminary Determination). Ecology's Preliminary Determination proposes to authorize installation and operation of a new Regenerative Thermal Oxidizer (RTO) at the Pasco Sanitary Landfill National Priorities List Superfund Site (Site).[1]

We appreciate the opportunity to provide these comments, and we appreciate Ecology's efforts to ensure the protection of air quality at the Site and nearby surrounding areas.[2] We believe the proposed Approval Order in the Preliminary Determination is an improvement over the Approval Order that authorized construction of the former Gulf Coast Environmental Systems (GCE) RTO at the Site in 2015. Nonetheless, we wish to provide Ecology with several comments, questions, and requests for clarification regarding the Preliminary Determination. We look forward to your response.

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[1] Installation and operation of the new RTO has been proposed by a group of Potentially Liable Persons (PLPs) at the Site known as the Industrial Waste Area Generators Group III (IWAG). Basin is also a PLP at the Site and a party to Agreed Order No. DE-9240, but Basin is not part of the IWAG. Basin is a member of a separate PLP group known as the Landfill Group, which currently also includes Pasco Sanitary Landfill and BNSF Railway Company.

[2] Basin operates a municipal solid waste transfer station adjacent to the Site on Dietrich Road in Pasco. Basin's transfer station is in close proximity to the proposed RTO at issue in Ecology's Preliminary Determination. Hundreds of public citizens and Basin customers visit the site on any given day. In addition, Basin employs 16 people on a full-time basis at the transfer station. Basin also employs 14 truck drivers who are each on site at the transfer station multiple times per day. The health and safety of its employees and customers is critically important to Basin.

1. Clarification of RTO System Responsibility. As a preliminary comment, Ecology's Public Notice document for the Preliminary Determination states that "[t]he parties responsible for cleaning up the landfill, through PBS Engineering + Environmental (PBS), propose to install and operate the RTO at the landfill." This language is too broad. The RTO was proposed solely by the IWAG. PBS has been retained solely by the IWAG and, as the Public Notice document states, PBS "will act on behalf of" the IWAG only. That is because, as Ecology's Technical Support Document (TSD) correctly states, the IWAG is responsible for the cleanup of Zone A at the Site, and the RTO is intended to support the IWAG's operation of a soil vapor extraction (SVE) system located in Zone A. Still, other language in the TSD states that "Pasco Landfill proposes that the RTO . . . represents BACT and t-BACT." That language could potentially confuse the public because Pasco Sanitary Landfill, like Basin, is not a member of the IWAG.

   We request that Ecology carefully review the Preliminary Determination and supporting documents and, as necessary, clarify that the RTO is the responsibility of the IWAG and its members. Among other modifications, we request that the source name listed in the TSD be changed from "Pasco Sanitary Landfill." The source name listed in the caption of the Preliminary Determination is acceptable, but we believe a more accurate source name would be "Pasco Sanitary Landfill Site: SVE Effluent Treatment System for Zone A Interim Action."

2. Clarification of RTO Purpose and Oversight. Ecology's Public Notice document for the Preliminary Determination correctly states that the Toxics Cleanup Program (TCP) oversees ongoing actions related to investigating and cleaning up the Site. The Public Notice document also states that "[c]leanup requires installation of equipment to control emissions of gases" from the IWAG's SVE system in the distinct Zone A industrial waste area of the Site. We ask Ecology to clarify and confirm that, as correctly described in the TSD document, ongoing operation of the IWAG SVE system in Zone A is an interim action only. We also ask Ecology to clarify that both the SVE system and the proposed RTO unit are ultimately governed by the terms of Agreed Order No. DE-9240 and TCP oversight, and that TCP is still in the process of selecting a final remedy for the Site.

   A final cleanup action, as TCP has stated before, will not necessarily rely primarily on SVE for treatment of IWAG industrial waste in Zone A. As such, TCP has not made a determination that final cleanup of the Site requires operation of the IWAG SVE system in a manner that would require effluent treatment by an RTO. As we have explained before, we have some concern that the RTO air permitting process has generally proceeded on a separate track from the approval and oversight processes for other remedial actions governed by the Agreed Order, and that this dual track for Site approvals could result in the prejudgment of issues pertaining to the RTO and SVE systems that should more appropriately be addressed in TCP's FFS approval and remedy selection processes.

3. Submittals and Communications. As noted above, the proposed RTO would be a component of the IWAG's ongoing interim action SVE system operations at the Site's Zone A industrial waste repository. Because the proposed RTO is therefore governed by Agreed Order No. DE-9240, we request that any final Ecology Approval Order require that all submittals, notifications, and other related communications be sent not only to AQP but also to TCP and other Agreed Order project coordinators for the Site. This would be consistent with the Agreed Order communication protocols.

4. Potential Emissions, Emission Limits, and DRE Requirements. We agree with Ecology that specific destruction and removal efficiency (DRE) requirements should not have been removed from the Approval Order for the GCE RTO installed at the Site in 2015. Although we support the inclusion of specific DRE requirements in Ecology's new Preliminary Determination, however, we note that the Preliminary Determination includes RTO emission limits and DRE standards for only certain Toxic Air Pollutants (TAPs) and other constituents. By contrast, when the IWAG's Zone A SVE system effluent was previously treated at the MSW Landfill Flare, the Landfill Group was required to perform regular air quality evaluations for a wider range of TAPs, including benzene.

   Given that the IWAG has identified a number of TAPs present in the RTO process stream that are not subject to emission limits in the proposed Approval Order – including some that may exceed the Small Quantity Emission Rate (SQER) when uncontrolled – we request that Ecology explain how and why it determined that only certain TAPs and other constituents will require emissions limits and DRE requirements.[3] For example, did AQP toxicologists perform an independent health impact evaluation for the proposed new RTO, as suggested in Ecology's TSD for the Preliminary Determination? In addition, please explain whether and how the potential TAP emission rates identified by the IWAG in its original 2014 Notice of Construction (NOC) application, and reproduced in Appendix B of the more recent 2016 NOC application, were reviewed and updated for purposes of the currently proposed permit.

   Relatedly, Ecology's TSD for the Preliminary Determination incorporates the TSD for the former GCE RTO Approval Order. We encourage Ecology to modify and update its new TSD so that it accurately describes the proposed new RTO unit and does not confuse the public. For example, the TSD still identifies the GCE RTO as the permitted source for the Site. That language should be modified to clarify that the proposed new Anguil Environmental Systems (Anguil) RTO, if approved, will be the source. The prior TSD is outdated and inaccurate in several other respects, some of which are noted elsewhere in these comments. We request that Ecology review and update all elements

[3] Certain TAPs for which no emission limits are established in the Preliminary Determination were present in the RTO process stream, even at low SVE system flow between October 2015 and October 2016, at loading rates that exceeded de minimis and/or SQER standards. Those TAPs include tetrachloroethene, 1,2-dichloroethane, benzene, naphthalene, and vinyl chloride.

of the TSD (including the Part 70 determination) as part of the NOC review process for the proposed new RTO. This updated TSD should account for additional information and data that is available as a result of GCE RTO operations since October 2015. One example is data regarding actual emissions and process stream loading rates for the GCE RTO.

Although there may be some overlap between the design and operational parameters of the GCE RTO and proposed new RTO, there are important differences as well (e.g., stack height, rated capacity, etc.). Because the GCE RTO completely failed to perform as intended or required, Ecology should clearly specify and explain all differences between the units for purposes of public review. To the extent operational parameters of the new RTO "will result in slightly lower receptor impacts during RTO operations," those parameters and reduced impacts should be identified and explained for public review.

5. RTO/SVE Flow Rate. The Preliminary Determination authorizes a maximum Zone A SVE vapor effluent loading rate to the RTO of 1000 standard cubic feet per minute (scfm). Because the RTO inlet flow rate is directly related to SVE system flow rates, please describe how Ecology determined that the SVE system can be safely operated at a flow rate of 1000 scfm without posing potential risks to human health and the environment, including the topics and results of any consultations between AQP and TCP regarding SVE system flow rate limitations. Similarly, did Ecology evaluate or identify a minimum SVE system flow rate and minimum RTO inlet loading rate necessary to achieve RTO emission limits and DRE requirements? If so, please describe this evaluation and identify any minimum SVE/RTO flow rate established as a result.

6. SVE Condensate. The Preliminary Determination prohibits treatment of IWAG SVE system condensate by the proposed RTO. We agree with Ecology that this limitation is necessary given the inability of prior SVE effluent treatment systems to achieve a sufficient DRE for condensate, and given that liquid condensate is likely a hazardous waste subject to more stringent standards than the SVE system vapor stream. However, we note that Ecology's TSD states that "seven gallons per hour of condensate will be introduced to the RTO for disposal." Please confirm that Ecology's Preliminary Determination prohibits SVE system condensate treatment at the proposed RTO notwithstanding this statement. In addition, given that condensate was recently observed leaking from the now-defunct GCE RTO, please describe the manner in which any liquid condensate that reaches the new Anguil RTO will be removed from the system and collected for separate disposal.

7. RTO Testing, Monitoring, and Reporting Requirements. We note that the Preliminary Determination requires an initial performance test of the proposed RTO within two months of system startup, as opposed to the six month performance test deadline for the GCE RTO. We support this requirement and agree it is necessary given the recent history of technical and operational flaws in RTO emissions controls at the Site.

Regarding monitoring requirements, did Ecology consider requiring emissions monitoring protocols such as installation of continuous emissions monitoring equipment? If so, please explain why Ecology chose not to require such protocols. If not, please explain Ecology's position on how continuous monitoring of RTO ceramic bed temperature, soil vapor flow rate, and dilution air flow rate provide a sufficient basis to confirm day-to-day compliance with the emission limits and DRE requirements of the proposed Approval Order.

Given the performance history of the GCE RTO, which Ecology's TSD correctly recognizes as a factor counseling more stringent limitations for the proposed new RTO, we believe that more robust emissions monitoring at the proposed RTO is warranted. Better and more frequent monitoring should be required at least for an initial period of time while successful operation of the unit is demonstrated across a range of operating conditions and SVE system flow rates. Similarly, we believe that annual reporting of RTO emissions and loading data is insufficient. For context, when the IWAG's Zone A SVE effluent was treated at the MSW Landfill flare, Ecology required monthly system performance status reports and quarterly air quality evaluations. At a minimum, quarterly reporting on RTO performance appears warranted following system startup.

8. RTO O&M Manuals. The Preliminary Determination requires preparation of site-specific Operation and Maintenance (O&M) manuals for the IWAG RTO and SVE systems. Please clarify whether General Condition 8(c) of the proposed Approval Order requires that copies of the O&M manuals be kept at the Site at all times? Additionally, because the proposed RTO is governed by Agreed Order No. DE-9240, we request a copy of the site-specific O&M manuals, as well as copies of any subsequent updates or revisions to those original manuals. We also request a copy of any manufacturer's O&M manual that may be provided with the proposed RTO unit.

9. Enforcement. Ecology's TSD for the Preliminary Determination states that there are no air quality enforcement actions pending for this source. It is our understanding that, on April 4, 2016, Ecology issued a still-outstanding Notice of Violation (NOV) for emissions violations at the GCE RTO. Please explain whether and why Ecology views the proposed new RTO as a separate and distinct source from the GCE RTO. In addition, please describe the status of the April 4, 2016 NOV and Ecology's corresponding enforcement process, if any. Does Ecology consider AQP's November 29, 2016 Administrative Order to have resolved the earlier NOV completely?

10. Contingencies. The Preliminary Determination prohibits introduction of SVE system vapor effluent to the RTO if the RTO bed temperature falls below 1650 degrees Fahrenheit, and it requires an interlock system that will prevent introduction of SVE effluent to the RTO in the event that RTO bed temperature falls below this minimum requirement. Please describe what contingencies are in place for the treatment of SVE effluent during times when the proposed RTO automatically closes its vapor inlet due to this operational limitation? For example, how would SVE effluent be treated during

those circumstances, and how quickly would alternative treatment be put in place? Would the SVE system automatically shut down, or would uncontrolled SVE system vapor emissions be allowed at the Site? Similarly, what contingencies have been identified in the event that RTO system performance otherwise fails to achieve the emission limits and DRE requirements established in the Preliminary Determination? Do any SVE vapor treatment contingencies include the notification of Basin personnel of uncontrolled emissions? Please describe how and when any such contingencies will be implemented, and at whose direction.

11. Rental SVE Vapor Treatment Unit. It is our understanding that the IWAG's Zone A SVE system effluent is currently being treated by a rented Recuperative Thermal Oxidizer (RCO) installed by the IWAG on a temporary basis. Ecology permitted installation of the RCO through a November 29, 2016 Administrative Order that was not published for public comment. Ecology recently invited the Landfill Group to raise any concerns about the RCO and associated Administrative Order in its public comments on the Preliminary Determination. As such, we submit the following questions and observations:

    a. Please identify and describe all of the operating parameters recommended by Anguil to provide for a 99.5% DRE at the RCO, and explain the basis for determining that compliance with these parameters will result in a 99.5% DRE. Are the Anguil-recommended operating parameters the same as those listed in Paragraph III(3) of the Administrative Order? Other than the operating parameters listed in Paragraph III(3) of the Administrative Order, what, if any, additional testing, monitoring, and reporting requirements are required by Ecology for the RCO to ensure an adequate degree of treatment for the IWAG's Zone A SVE system effluent? Is the RCO subject to specific emission limits and DRE requirements? If so, what are those emission limits and DRE requirements and how is compliance being demonstrated and reported?

    b. Has Ecology required preparation of a site-specific O&M manual for the RCO? If so, has Ecology required that a copy of the site-specific RCO O&M manual be kept on the Site? As with the site-specific O&M manuals for the proposed new RTO and SVE systems, we request a copy of the site-specific O&M manual for the RCO, as well as copies of any subsequent updates or revisions to the original manual. We also request a copy of any manufacturer's O&M manual provided with the RCO unit.

    c. It is our view that, like the GCE RTO and proposed new RTO, the RCO is part of an interim remedial action being conducted by the IWAG as part of its responsibility to clean up its Zone A industrial waste repository. As such, we incorporate here by reference our prior comments regarding the purpose of the proposed new RTO and TCP's role in the approval process.

12. GCE RTO. We share the view of Ecology and the IWAG that the GCE RTO's limited performance was unfortunate. Given that performance history, we believe a detailed and formal "post-mortem" assessment of the GCE RTO should be performed by Ecology and/or the IWAG. The GCE system's design, operation, and ultimate failure should be evaluated carefully for lessons that might be applied toward better operation and performance of current and future treatment systems for vapor effluent generated by the IWAG's interim action Zone A SVE system. Please describe Ecology's plans, if any, to require or participate in such an evaluation.

    In addition, was a site-specific O&M manual and/or an annual report prepared for the GCE RTO and provided to Ecology? If so, please provide us with copies of any site-specific and/or manufacturer's O&M manual for the GCE RTO, together with any annual report prepared for that unit, and any comments issued by Ecology on those documents.

Thank you for giving us the opportunity to provide these comments. We hope Ecology will carefully consider them, and, again, we look forward to your response. Please let me know if you have any questions.

Respectfully submitted,

RIDDELL WILLIAMS P.S.

By
Emerson Hilton

cc: Chuck Gruenenfelder
Mike Riley
Sean Gormley
John Level
Jennifer Sanscrainte
Jim Benedict

Response to Riddell Williams (RW) Public Comments on the Pasco Landfill Zone A RTO

Comment 1:

Ecology appreciates RW's thorough review of all the documents provided for public review. Clarifying legal responsibility for the subsurface contamination at the Pasco Sanitary Landfill is outside of the scope of the AQ approval order for the RTO, however. No changes have been made to the preliminary determination on the basis of this comment.

Comment 2:

The air quality approval order will be issued for the life of the RTO equipment. Continuing use of the RTO is allowed by the AQP as long as emissions remain equal to or less than those reviewed for the approval. The AQP approval of the RTO is a separate issue from any associated with yet-to-be agreed final or interim cleanup activities. Instead, the Approval exclusively evaluates whether the RTO can operate indefinitely in compliance with Air Quality standards. No changes have been made to the preliminary determination on the basis of this comment.

Comment 3:

The AQP has conducted our communications on this project in accord with the agreed order protocols, although we defer to the AG's Office to inform us of the legal necessity if this becomes an issue. The AQP has worked closely with the TCP to ensure that the AQ approval order is fully coordinated with TCP cleanup and communication protocols. The AQP has not changed the preliminary determination on the basis of this comment.

Comment 4:

The review to prepare the Approval Order has focused on the 12 compounds of highest concentration in the SVE gases. Many more are included in on-going sampling and analyses.

Soil gas concentrations have decreased from the values used to develop the 'worst-case' analysis used in the 2014 NOC application. Those values were collected in 2012 during periods when the SVE system was operated more aggressively to remove contaminants from Zone A. No extensive review or update is necessary.

While we have received no comments from the public suggesting they were confused by attachment of the GCE technical support information to the TSD for this comment period, we have rewritten the TSD (still with the GCE TSD as an attachment) for the second comment period for the Anguil unit.

Comment 5a:

The AQP reviewed health impacts for the GCE unit at worst-case concentrations (ca 2012) and 1000 scfm soil gas extraction rates. Under this operating scenario, the health impacts were determined acceptable. The Anguil unit operating parameters will further reduce potential health impacts compared to those evaluated for the GCE unit (increased stack height, equal or lower SVE gas flow, lower concentrations in the SVE gas, and increased dilution air flows).

Comment 5b:

The Ecology AQP has no plan or need to include minimum emission limits on the Anguil RTO. If the concentrations in the SVE gases decline to below the levels that are included as minimum concentrations in the Anguil guarantees, the health impacts of operating the system will be very nearly equal to the health impacts of directly venting the SVE gases. If there is some value to operating the RTO below the Anguil quote minimum concentrations, that will be compliant with the AQP approval order.

Comment 6:

Introduction of condensate is prohibited by the draft and proposed approval orders for the Anguil RTO.

Comment 7:
The AQP evaluates suitable monitoring methods (including any proven continuous methods) in the process of developing all approval orders. In this situation there is no reliable continuous method to determine speciated VOC emission rates. Instead, periodic 8260 analyses, combined with the operating parameters listed in this comment, will provide a robust determination of on-going compliance by the RTO unit.

Comment 8:
Basin Disposal, Inc. may certainly request the O&M manuals from PBS and the IWAG. The AQP requires that we are able to review them on-site, but will not be collecting them or providing copies for others.

Comment 9:
The enforcement issues for the GCE unit are better described in the revised TSD for the RTO. The compliance status of the Anguil unit is not dependent on the GCE unit, although we have used the GCE experience to inform development of the Anguil approval order.

Comment 10:
There are no such 'contingencies'. Interlocks will shut down SVE flows to the RTO until temperatures return to specification.

Comment 11:
This comment is directed to temporary equipment operated under administrative order. While that equipment is outside the scope of this approval, the AQP notes that the alternative to the temporary equipment was either to cease extracting contaminants from Zone A until a permanent RTO could be in place (unacceptable to TCP), or to run at reduced rates using a oxidation unit guaranteed to perform at a higher efficiency than either RTO was guaranteed to achieve.

Comment 12:
The AQP does not plan to engage in "post-mortem" evaluation of the GCE unit. An O&M manual for the GCE unit may be available from the IWAG or from GCE. The value of that document is limited, though, as the operating parameters necessary to ensure compliance of process equipment or control equipment such as the RTO, are not usually confirmed until the initial performance test is conducted and successful. In this situation, operating parameters and maintenance or repair procedures sufficient to ensure compliance were not demonstrated during the performance test.

Comments on Preliminary Determination for Approval Order No. 16AQ-E031

Pasco Sanitary Landfill Interim Clean-up Regenerative Thermal Oxidizer ("RTO") Approval Response

IWAG and PBS have comments on some of the proposed conditions in the preliminary determination as noted below. We have also provided a redline of the proposed changes to the determination.

Condition #1.a:

We request that this condition be changed to read:

The RTO shall be equipped with an interlock with the SVE system blowers, such that no SVE gas is introduced to the RTO unless the temperature in the combustion chamber is equal to or greater than 1600 degrees Fahrenheit. The interlock temperature may be lowered if source testing demonstrates the required destruction efficiency can be met with a lower interlock temperature.

Rationale: The temperature that is the primary control for destruction efficiency is the combustion temperature rather than the bed temperature. There are three SVE system blowers rather than a SVE gas inlet fan. In its proposal, Anguil noted that the nominal operating temperature set point is 1650-1800 °F. Anguil advises that the operating set point is above the minimum temperature established to meet the required DRE, since the temperature controller has a band over which it controls. In the proposal, Anguil used the nominal set point delta of 50 degrees. Since the combustion chamber temperature will be continuously monitored, IWAG would like the latitude to vary the set point if experience shows that the temperature controller could provide the needed minimum temperature with less than a 50 degree delta. Stated differently, there is not a need to have limits on both the set point and the minimum temperature, just on the minimum temperature.

Condition #1.d:

We request this condition be deleted.

Rationale: This condition is duplicative of sentence #2 of condition 1.a.

Conditions #2.b-m:

We request these conditions be deleted.

Rationale: Conditions 2.b through 2.m provide pound per hour emission limits for twelve (12) organic compounds. Nine of the twelve compounds are toxic air pollutants ("TAPs") listed in WAC 173-460-150. Preliminary Approval Order condition 2.r requires an RTO destruction efficiency of 98% for each of those 12 compounds for exhaust concentrations greater than the compounds' practical quantification limit (PQL) or 3 ppmv, whichever of these concentrations are higher.

The pound per hour emission limits provided in conditions 2.b through 2.m are inconsistent with the concentration based limits in condition 2.r, and represent emission reduction levels beyond what is required by Washington rules.

In general, Washington's rules for controls of new sources of toxic air pollutants require the following:

- Each new or modified toxic air pollutant source must employ Best Available Control Technology for toxics ("tBACT").
- Emissions of toxic air pollutants must be sufficiently low to protect human health and safety as demonstrated by following the procedures in WAC 173-460, which include the following:
    - Demonstrating the increase in emissions of each TAP is below the small quantity emission rate ("SQER") listed in WAC 173-460-150 after the application of tBACT.
    - Demonstrating through dispersion modeling that the modeled ambient impact of the aggregate emissions increase of each TAP does not exceed the Acceptable Source Impact Level ("ASIL") for that TAP as listed in WAC 173-460-150 after the application of tBACT.

The Technical Support Document ("TSD") provided with the Preliminary Determination concludes that, "the RTO, resulting in 98% control of the VOC removed from the vadose zone by the SVE system, and its exhaust containing a maximum of 3.3 pounds per hour VOC represents BACT and t-BACT.". As such, condition 2.r in the preliminary Approval Order is appropriate to practically enforce t-BACT requirements.

The following table compares treatment levels that condition 2.r to SQER levels.

Compound*	Expected Maximum Inlet Rate (lbs/hr)	Emission Rate At 98% DRE (lbs/hr)	Compound Exhaust Concentration At 2500 scfm (ppmv)	Emission Rate At 3 ppmv and 2,500 scfm (lb/hr)	Emission Rate For Comparison To SQERs (lb/day)**	Emission Rate at 2,500 scfm (lb/yr)	SQER	SQER Units
1,1,1-Trichloroethane	0.08	0.002	0.03	0.16	3.74		131	lbs/day
2-Butanone (MEK)	9.88	0.20	7.03	0.08	4.80		657	lbs/day
Methyl isobutyl ketone (MIBK)	2.89	0.06	1.48	0.12	2.81		394	lbs/day
Ethylbenzene	0.88	0.02	0.42	0.12	2.98	1086.5	76.8	lb/yr
Isopropylbenzene (Cumene)	0.03	0.001	0.01	0.14	3.37		52.6	lbs/day
Total o,m,p-Xylenes	4.94	0.10	2.39	0.12	2.98		29	lbs/day
Methylene Chloride (DCM)	2.31	0.05	1.39	0.10	2.38	869.2	192	lb/yr
Toluene	34.39	0.69	19.16	0.11	459.84		657	lbs/day
Trichloroethene	1.68	0.03	0.66	0.15	3.68	1344.7	95.9	lb/yr

* Ethanol, 1,2,4-Trimethylbenzene, and n-propylbenzene are also identified in condition 2, however, these compounds are not listed toxic air pollutants in WAC 173-460-150 and there are not SQERs or ASILs established for these compounds.

**Green shading identifies compounds for which comparison to SQERs is based on stopper of 3 ppmv. It is assumed the PQL will be below 3 ppmv.

The following table compares the modeled annual impacts to ASILs for the three compounds with annual SQERs.

Compound	Emission Rate at 2,500 scfm (lb/day)	Emission Rate at 2,500 scfm (lb/yr)	SQER	SQER Units	Modeled Annual Impacts (ug/m3)*	ASIL (ug/m3)
Ethylbenzene	2.98	1086.5	76.8	lb/yr	0.24	0.4
Methylene Chloride (DCM)	2.38	869.2	192	lb/yr	0.19	1
Trichloroethene	3.68	1344.7	95.9	lb/yr	0.30	0.5

**Based on an annual air dispersion factor of 1.93 ug/m3/lb/hr as provided in the project's NOC application.

As noted the limits of condition 2.r are sufficient to ensure emissions are below SQERs or below ASILs as applicable.

Condition #2.r:

We request this condition be changed to read:

The RTO destruction efficiency for the following compounds shall be measured in accordance with Condition 4.d.vii and shall be 98% for exhaust concentrations greater than the compounds practical quantitation limit (PQL) or 3 ppmv (as the compound), whichever of these concentrations are higher:

Rationale: The requested change clarifies that the measurement of 98% DRE only applies where the outlet concentration is above 3 ppmv or the PQL, whichever is higher.

Condition #3.a:

We request that the condition be changed to read:

The combustion chamber of the RTO shall be equipped with properly maintained and operated continuous-recording temperature measurement instruments and data loggers and the temperatures reduced to 15-minute averages (quarter-hour block averages) for the purposes of demonstrating compliance with conditions 1.a.

Rationale: The reference to the combustion chamber is consistent with the proposed changes for other conditions that reference combustion chamber instead of the bed. The averaging of the temperatures recognizes that any short term dips in temperature below the permit limit would not affect treatment levels considering the heat retention of the combustion chamber and bed media.

Condition #3.b:

We request that the condition be changed to read:

The soil vapor flow rate to the RTO shall be monitored continuously with properly operated and maintained flow measurement instrumentation and continuous data loggers.

Rationale: Condition 3.b requires that soil vapor flow rate and dilution air flow rate to the RTO be monitored continuously with properly operated and maintained flow measurement instrumentation and continuous data loggers. Dilution air is only added by the PLC for combustion chamber temperature and LEL control. Dilution air is not controllable by the facility operator. AQP has agreed with IWAG's request for no permit condition related to

dilution air flow rate. It would be consistent with this agreement to not require continuous monitoring of the dilution air flow rate. IWAG does plan on monitoring the air flow rate through the dilution air fan during compliance testing to measure mass rates. .

Condition #4.a:

We request that the condition be changed to read:

Within 30 days of startup of the Anguil RTO, the permittee shall submit a written performance test plan for the initial performance test to determine compliance with the destruction efficiency limits in Condition 2. Within 60 days of approval of that test plan, the permittee shall conduct the initial performance test per the approved plan.

Rationale: The requested change sets time limits that are under IWAG control.

Condition #4.b:

We request that the condition be changed to read:

Following the initial performance test required in Condition 4.a., an annual test shall be conducted to determine compliance with the destruction efficiency limits in Condition 2.

Rationale: The requested change is consistent with the requested changes for condition 2.

Condition #4.d.vii:

We request that the condition be changed to read:

Speciated VOC per EPA Method 8260.

Rationale: Dr. Eric Winegar has advised that Method 8260 is a more appropriate stack test method than Method TO-15.

Condition #5:

We request that item d in the list of O&M Manual contents be changed to read:

Actions to be taken in the event of a RTO temperature excursion below 1600 degrees Fahrenheit.

Rationale: This change is consistent with the requested change for condition 1.a.

Requested Additional Condition:

The Approval Order should include a condition limiting emissions of any single Hazardous Air Pollutant ("HAP") to 10 tpy and combined total HAPs to 25 tpy.

January 18, 2017, and March 6, 2017
Responsiveness Summary for Preliminary Determination (PD) of Approval No. 16AQ-E031: IWAG and PBS comments

IWAG and PBS Comment on Condition #1.a.
Ecology agrees with and has incorporated the first sentence of this requested change. The intent of the Condition is to establish the minimum combustion temperature that ensures the DRE guarantee is satisfied.
Ecology did not incorporate the second sentence. If stack testing of this device demonstrates a lower temperature will ensure the required destruction efficiency is achieved, the IWAG and PBS may request a modification to the approval order for this system.

IWAG and PBS Comment on Condition #1.d.
Ecology agrees with this comment and has deleted the duplication.

IWAG and PBS Comment on Condition #2.b-m.
Ecology agrees that these mass emission limits are unnecessary given the changes in operating restrictions for the Anguil RTO. The subconditions are removed.

IWAG and PBS Comment on Condition 2.r.
Ecology agrees that the condition can be clarified as requested.

IWAG and PBS Comment on Condition 3.a and 3.b.
Ecology agrees that the changes requested do not reduce the control efficiency of the Anguil RTO. The requested changes are incorporated into the Approval Order.

IWAG and PBS Comment on Condition 4.a.
Ecology does not agree with this requested change. We believe there is ample time available to provide a protocol for the testing, receive Ecology approval of the protocol, and to schedule the third party testing within the time-frame in the original condition.

IWAG and PBS Comment on Condition 4.b.
Ecology does not agree with this requested change. It may be possible to demonstrate that emission limits in condition 2 are satisfied using the TO-15 data, thus avoiding specific testing of acid gases, but those details may be provided in the testing protocol provided for Ecology approval.

IWAG and PBS Comment on Condition 4.d.vii.
Ecology has not been provided the background or supporting information for this request. We have some experience that hold times and other measures of sample integrity are improved with TO-15. Ecology does not agree with this request.

IWAG and PBS Comment on Condition 5.
Ecology agrees with this request.

IWAG and PBS Comment requesting additional condition.
Ecology declined to add the requested condition, initially. After considerable communication on this issue, Ecology added Condition 2.b. limiting HCl emissions to 10 tons per rolling 12 month period and

HAP emissions to 25 tons per rolling 12 month period. A conservative analytical and calculation method to determine HCl and HAPs emissions was added to Condition 3.c.

February 21, 2017 Addendum to Responsiveness Summary

On January 19, 2017, Ecology was provided additional information on the soil vapor analytical methods best suited for this project (See Eric Winegar Technical Memorandum of January 19, 2017). With the information provided in the technical memorandum, Ecology was able to revisit our response to the IWAG and PBS Comment on Condition 4.d.vii (see above). We now agree that Method 8260 with Method 0040 sample collection and a knock-out impinge which is subsequently analyzed for polar compounds is the methodology most suited to this source. Condition 4.d.vii has been modified to incorporate this change.