

Anonymous Anonymous

February 16, 2021

Colleen Stinson
Washington Department of Ecology

Dear Colleen,

As directed below, U.S. Oil & Refining Co.'s comments on Ecology's Regional Haze Revisions to the State Implementation Plan are included as an attachment to this email. Please send Rob and I a response letting us know that you received and could open the attached submittal document. Thanks again for your assistance.

Regards,

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U.S. OIL & REFINING CO.

February 15, 2021

Submitted via Regional Haze Comment Website: <http://aq.ecology.commentinput.com/?id=hKeMR>

Ms. Colleen Stinson
Air Quality Environmental Planner
WA State Department of Ecology

Subject: Regional Haze Revisions to the State Implementation Plan

Dear Ms. Stinson:

U.S. Oil & Refining Co. (USOR) submits these comments on the Department of Ecology's draft Regional Haze State Implementation Plan (SIP) Revision for the 2nd 1—year planning period. USOR owns and operates a petroleum refinery located in Tacoma, WA.

Before doing so, however, we'd like to thank the Department for its virtual outreach and stakeholder engagement on this SIP development. COVID restrictions present a challenge to the communication process that is necessary for regulatory development, but your agency has clearly endeavored to provide timely information and has sought feedback from the affected facilities across the state. USOR appreciates those efforts.

These comments pertain to the Departments Draft Second 10-Year Plan, Chapter 11 (4-Factor Analysis) that was discussed during the January 25, 2021 meeting for petroleum refining stakeholders.¹ During that meeting you indicated that the informal comment period for this document had been extended until February 16, 2021.

Our comments fall into three primary categories:

1. The screening criteria used to determine which Washington sources should be evaluated for regional haze planning purposes,
2. Ecology's use of the Washington Reasonably Available Control Technology (RACT) process as the default enforcement mechanism for petroleum refineries in the second 10-year planning period, and
3. The economic feasibility analytical methodology employed by the agency in its 4-Factor Analysis document.

¹ The draft 4-Factor Analysis document is found here on the Ecology website:
<https://fortress.wa.gov/ecy/ezshare/AQ/RegionalHaze/docs/RhSIPCh11202101.pdf>

I. Screening Criteria for Sources Subject to Potential New Emission Controls During the Second 10-Year Regional Haze Planning Period

Ecology, in accordance with federal guidance,² recognized in its 4-Factor Analysis that all air emission sources in Washington do not need to be evaluated in terms of their impacts to regional haze and the need for potential new emission controls. Federal guidance notes that “...states may develop screening metrics and thresholds that identify those sources with the greatest visibility impacts for further analysis in the second implementation period. A state using a screening analysis would defer full consideration of sources with lower visibility impacts to later implementation periods.”³

For screening purposes, Ecology ranked emission sources using the accepted metric of Q/d, where “Q” is the annual emission of haze-inducing pollutants (in units of tons/year) and “d” is the distance to the nearest Class I area. Ecology’s 4-Factor Analysis states:

Ecology screened the data by calculating the Q/d value for each source and ranking them from greatest Q/d to smallest Q/d. The resulting Q/d values were evaluated using two different EPA approved processes (EPA Draft RHR Guidance 2016). The first process looked at sources with a Q/d of 10 or greater, and the second process looked at the sources that were in the top 80 percent of the summed Q/d values.

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The screening yielded a subset of 20 sources (17 major sources and 3 non-major sources) where the 80% Q/d score was equal to 6.7. The 6.7 value is lower than the Q/d threshold of 10. The 80 percent Q/d value yielded a larger number of sources and is more conservative, so we used the 80 percent Q/d value of 6.7 as the threshold for which we would evaluate sources using FFA [4-Factor Analysis].⁴

By Ecology’s calculation, the USOR petroleum refinery has a Q/d metric of 3.2.⁵ As such, the facility clearly falls below both of the screening thresholds employed in the federal guidance – the Q/d factor is less than 10, and it is less than half the calculated metric of 6.7 for the top 80 percent of summed Q/d values. Due to the combination of low emissions and its distance to a Class I area, the USOR facility

² Draft Guidance on Progress Tracking Metrics, Long-Term Strategies, Reasonable Progress Goals and Other Requirements for Regional Haze State Implementation Plans for the Second Implementation Period, U.S. Environmental Protection Agency, EPA-457/P-16-001, July 2016

³ *Ibid.*, p. 13

⁴ Ecology Draft 4-Factor Analysis, p. 7

⁵ *Ibid.*, Table 1, p. 13

clearly meets the U.S. Environmental Protection Agency's criteria for deferral to a later regional haze planning period per the guidance cited above.

We would like to point out that the Oregon Department of Environmental Quality (ODEQ), as part of its SIP development for the second 10-year planning period, recognized that sources with small Q/d values should not be evaluated during this period. In a notification to Oregon emission sources, the ODEQ stated "Facilities with Q/d below 5.00 are not required to do further regional haze analysis or control device installation during Round 2" [i.e., the second regional haze implementation period].⁶ If the USOR facility were located in our neighbor to the south, it would be have been categorically exempted from further regional haze evaluation for this planning period.

Based on both applicable federal guidance and common sense, USOR believes that its Tacoma refinery should be excluded from further analysis under the Washington regional haze SIP development for the second 10-year planning period. While we recognize that more work will need to be done in the future to ensure that Washington continues to meet its reasonable progress objectives, we believe that Ecology's data demonstrate that no further evaluation of our facility is currently warranted.

II. Ecology's Selection of the RACT Process for Regional Haze Enforceability for Refineries

During the January 25, 2021 refinery stakeholder meeting Ecology stated that the Washington RACT process will be used to enforce regional haze emission reductions for the petroleum refining source category. The only rationale offered for this decision was that there are more than three Washington sources within the refining category, and therefore RACT is an eligible option.

Ecology's Draft 4-Factor Analysis actually identifies four viable methods for regional haze emission reduction enforcement. The analysis states:

"The RHR [Regional Haze Rule] provides no specific mechanisms to enforce emission reductions. Ecology relies on current Washington State laws and regulations to implement any reductions identified as reasonable in the FFA. We have identified four potential mechanisms for achieving identified emission reductions:

- *Agreed order (AO) – a legally binding Order that requires agreement between the parties.*
- *Compliance action – legal action that the state can take if permit violations occur; the action must be appropriate to the violation.*
- *Permit modification – permittee initiated change to their facility Publication XX-XX-XXX Draft Chapter 11 Page 6 January 11, 2021*
- *Reasonable available control technology (RACT) – Revised Code of Washington (RCW) 70.94.154*

The first three options require agreement and actions from the sources. The RACT process may require rulemaking. Ecology prefers to use permit modifications and AOs to achieve emission

⁶ Correspondence dated August 14, 2020 from the Oregon Department of Environmental Quality to sources submitting 4-Factor Analyses

reductions. [emphasis added] Ecology will use the RACT process to initiate reasonable emission reductions when the sources and Ecology disagree.”⁷

Ecology’s unilateral decision to use RACT for refineries contradicts this statement. If Ecology prefers to use permit modifications and Agreed Orders – as professed in the Draft 4-Factor Analysis – then why did it select RACT for the refining source category with no discussion of the other enforcement options? Additionally, USOR is not aware of any disagreement between refinery sources and Ecology in terms of regional haze emission reduction enforcement. As a member of the Western States Petroleum Association (WSPA), whose membership encompasses four of the five refineries in Washington, USOR is not aware that any WSPA member has disagreed with Ecology on any specific potential enforcement mechanisms that are available to the agency.

When the RACT process is triggered, controls deemed to be reasonably available are applied to all sources within the category after accounting for the impact of the control on air quality, the availability of controls, the emission reduction to be achieved, and the costs of those controls. In light of USOR’s immaterial impact on regional haze as described in the previous section, Ecology’s Draft 4-Factor Analysis makes it clear that the only reason the USOR Tacoma refinery is being evaluated for emission reductions is that it is part of an industry source category for which a RACT regulation is planned.

The application of the RACT process to regional haze emission reduction enforcement would inappropriately capture the USOR facility for emission control evaluation in this planning period. Emissions from the USOR facility have an insignificant impact on visibility in Class I areas. *Were it not for the uniform application of RACT requirements across the entire petroleum refining source category, USOR would be deferred from evaluation of regional haze controls for this planning period, just like dozens of other sources that are deferred by virtue of the fact that they have a Q/d value of less than 6.7.* USOR therefore requests Ecology to revise its current plan, and not summarily select the RACT process as the enforcement mechanism for petroleum refinery regional haze emission reductions.

III. Economic Feasibility Methodology Used by Ecology in 4-Factor Analysis

The federal regional haze rule requires that emission controls be evaluated for cost effectiveness. In addition to the capital cost of installation, the financial analysis must include indirect costs (e.g., engineering, performance testing, etc.) and operational costs over the anticipated lifespan of the equipment. The result of the calculation is a cost per ton of pollutant controlled. This control cost is evaluated against a threshold that has been deemed reasonable; if the control cost is less than the reasonable threshold, the control technology meets the applicable cost-effectiveness test in the regional haze rule.

To account for the time value of money an interest rate (termed a discount rate for calculating the present value of the project) must be assumed. In its 4-Factor Analysis Ecology used a discount rate of

⁷ Ecology Draft 4-Factor Analysis, pp. 5 – 6.

3.25 percent without describing the basis for selecting this value. Ecology's discount rate is not consistent with either federal regional haze guidance or the EPA Control Cost Manual.⁸

The federal regional haze guidance "strongly recommends"⁹ that states adhere to the accounting principles used in the EPA Control Cost Manual. The guidance goes on to say that states should "[U]se... the OMB-approved discount rate to annualize costs, rather than a market interest rate or "real" interest rate. The discount (or interest) rate in this case can act as a proxy of the opportunity cost of capital, though this rate is adjusted for inflation to be consistent with the Control Cost Manual methodology as mentioned below in this section."¹⁰

The relevant Office of Management and Budget (OMB) approved discount rate is described in the U.S. Office of Management and Budget, Circular A-94: Guidelines and Discount Rates for Benefit Cost Analysis of Federal Programs, October 29, 1992. This document concludes that the appropriate discount rate for the analysis of cost-effectiveness is 7 percent.

The EPA Control Cost Manual states: "Because this Manual is concerned with estimating private costs, the correct interest rate to use is the nominal interest rate, which is *the rate firms actually face*."¹¹ [emphasis added] The Control Cost Manual goes on to say: "Analysts should use the bank prime rate with caution as these base rates used by banks do not reflect entity and project specific characteristics and risks including the length of the project, and credit risks of the borrowers."¹² The Control Cost Manual goes on to say that if actual interest rate information is not available, then bank prime rate or the rate from the OMB guidance cited above may be used.

The 7 percent rate prescribed by the regional haze and OMB guidance is consistent with the real-world cost of financing for USOR. In USOR's April 2020 4-Factor Analysis that was submitted to Ecology in April 2020, we noted that Par Pacific, the parent company to USOR, had recently issued bonds with interest rates as high as 7.75 percent. Small companies like Par Pacific simply cannot borrow at rates approaching the bank prime rate. Ecology's use of the 3.25 percent discount rate is therefore inconsistent with both the applicable federal guidance as well as real-world financing conditions for USOR.

Using an inappropriately low discount rate makes a significant difference in the cost-effectiveness calculation in the 4-Factor Analysis. Here's an example from one of USOR's emission sources, process heater H-11. H-11 is the largest process heater at the facility, with a rated heat input capacity of 105.9 million BTU/hr. The difference in the annualized cost for installing and operating a selective catalytic reduction (SCR) control device on this heater over the anticipated 20-year lifespan and the calculated control cost using discount rates of 7 percent and 3.25 percent are shown in the following table:

⁸ EPA Air Pollution Control Cost Manual, 7th Ed., Chapter 2, available at: <https://www.epa.gov/economic-and-cost-analysis-air-pollution-regulations/cost-reports-and-guidance-air-pollution#cost%20manual>

⁹ Draft Guidance on Progress Tracking Metrics, Long-Term Strategies, Reasonable Progress Goals and Other Requirements for Regional Haze State Implementation Plans for the Second Implementation Period, U.S. Environmental Protection Agency, EPA-457/P-16-001, July 2016, pp. 89

¹⁰ *Ibid.*, p. 90

¹¹ EPA Control Cost Manual, 7th Ed., p. 15

¹² *Ibid.*, p. 16

Discount Rate (%)	Emission Reduction (tons/year)	Annualized Cost (\$/year)	Control Cost (\$/ton)
7	28.40	\$522,175	\$18,387
3.25	28.40	\$397,471	\$13,996

While both calculated control costs exceed the threshold of what would be considered reasonable, the cost calculated using the inappropriately low discount rate is 24% lower than the cost calculated using the applicable federal guidance. The actual cost that USOR would incur would be at least \$18,387/ton (if not higher due to actual borrowing costs).

USOR therefore requests that Ecology use the discount rate of 7 percent in its final 4-Factor Analysis as specified in applicable federal guidance. By doing so Ecology would also remain consistent with its traditional practices for conducting financial analyses.

Conclusion

USOR finds that its Tacoma, WA facility does not meet established federal criteria for consideration of emission reductions in the second 10-year regional haze implementation period. We therefore ask that Ecology defer our facility until future planning periods.

Ecology's Draft 4-Factor Analysis clearly indicates that the only reason the USOR facility is being evaluated for emission reductions is due to Ecology's use of the RACT regulation as the regional haze reduction enforcement mechanism for petroleum refineries. We contend that this is not appropriate and urge Ecology to use one of the multiple other mechanisms available to it for the necessary enforcement.

Finally, as Ecology moves forward to develop its final 4-Factor Analysis, the agency must use a discount rate of 7 percent to be consistent with applicable federal guidance. Using any other rate would be arbitrary and capricious.

Thank you for your consideration of these comments. If questions arise, please do not hesitate to contact Rob Gronewold or myself at 253-383-1651 or via email.. Rob's email is rgronewold@parpacific.com and mine is tgaub@parpacific.com.

Sincerely,

U.S. OIL & REFINING CO.



Ty J. Gaub
Environmental Manager

Cc: AJT, JBG, RLG, MHB

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