

Washington State Regional Haze State Implementation Plan

Appendix B

Federal Land Managers Comments and Ecology's Response to Comments

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Section B-1 Overview of Appendix B

One of the major requirements of the Regional Haze Rule (RHR) is formal consultation on the draft Regional Haze (RH) State Implementation Plan (SIP):

The State must provide the Federal Land Manager with an opportunity for consultation, in person and at least 60 days prior to holding any public hearing on an implementation plan (or plan revision) for regional haze required by this subpart. This consultation must include the opportunity for the affected Federal Land Managers to discuss their:

- (i) Assessment of impairment of visibility in any mandatory Class I Federal area; and*
- (ii) Recommendations on the development of the reasonable progress goal and on the development and implementation of strategies to address visibility impairment.¹*

Between March and June, Ecology provided the Federal Land Managers (FLMs) with the FLM Consultation Draft of Washington's RH SIP for review. Ecology held a formal consultation with the FLMs in person at Ecology's headquarters in Olympia, WA and via conference call on May 18, 2010. The purpose of the meeting was to discuss visibility impairment at mandatory Class I Areas and Washington's draft RH SIP. As a result of the meeting, Ecology extended the 60-day consultation period by 7 days in an e-mail to the FLMs to allow more time for submittal of formal written comments. Copies of Ecology's correspondence with the FLMs on formal consultation are included in Section B-2.

Section B-3 contains a summary of the comments received from the U.S. Department of the Interior National Parks Service (USDI-NPS) and Ecology's response as required by the RHR².

Copies of the formal written comments by the USDI-NPS are included in Section B-4.

Section B-5 contains a summary of the comments received from the U.S. Department of Agriculture Forest Service (USDA-FS) and Ecology's response as required by the RHR³.

Copies of the formal written comments by the USDA-FS are included in Section B-6.

¹ 40 CFR 51.308(i)(2)

² 40 CFR 51.308(i)(3)

³ 40 CFR 51.308(i)(3)



COPY

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

March 29, 2010

Scott Copeland
Forest Service
Washakie Ranger District
333 E Main St
Lander WY 82520-3499

Dear Scott:

You are receiving this as a member of the Federal Land Manager (FLM) team that has consulted informally with Ecology on Washington's Regional Haze SIP (RH SIP). Ecology is now ready to initiate formal consultation with FLMs on the draft RH SIP.

The Regional Haze Rule (RHR) provides that:

The State must provide the Federal Land Manager with an opportunity for consultation, in person and at least 60 days prior to holding any public hearing on the implementation plan...for regional haze.... This consultation must include the opportunity for the affected Federal Land Managers to discuss their:

- (xi) Assessment of impairment of visibility in any mandatory Class I Federal area; and*
- (xii) Recommendations on the development of the reasonable progress goals and on the development and implementation of strategies to address visibility impairment*

—40 CFR 51.308(i)(1)

The FLM Consultation Draft of Washington's RH SIP is on the enclosed CD with the exception of TransAlta. We are still working on TransAlta and will send it out when ready. The CD contains the initial draft BART technical support document and initial draft compliance order brought to public hearing last October.

The 60-day review period runs from Wednesday March 31, 2010 through Friday June 4, 2010. To include the FLM comments and our responses in the public review draft being taken to public hearing, we must receive FLM written comments by the end of the 60-day consultation period on June 4, 2010. Comments may be sent by regular mail or overnight to Ecology's Lacey, WA headquarters located at 300 Desmond Drive, Lacey WA 98503.

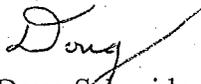


Ecology staff are available to meet in person at Ecology's headquarters in Lacey, Washington in fulfillment of the RHR SIP requirement for "an opportunity for consultation...in person" on the following dates:

Tuesday, May 18th from 1:00pm – 4:00pm
Wednesday, May 19th from 9:00am – 12:00pm
Thursday, May 20th from 1:00pm – 4:00pm
Tuesday, May 25th from 9:00am – 12:00pm
Thursday, May 27th from 9:00am – 12:00pm

We have set up a Doodle poll to help us arrange this meeting. Please indicate your availability at your earliest convenience. Because of other things that are happening during this period, it is important that we establish the date for "consultation, in person" as early as possible. Our experience is that it is easier to select and hold a date than find one at the last moment. If you have questions, please feel free to contact me at 360-407-6874 or Doug.Schneider@ecy.wa.gov.

Sincerely,



Doug Schneider
Regional Haze SIP Coordinator

Enclosure: CD

cc: Doug Schneider
Sarah Rees
Al Newman
Julie Oliver
Jeff Johnston

FLM recipients: Janice Peterson, Forest Service
Rick Graw, USDA Forest Service
Barbara Samora, Mount Rainier National Park
Tim Allen, US Fish & Wildlife Service
Don Shepherd, National Park Service
Scott Copeland, Forest Service

From: Johnston, Jeff (ECY)
Sent: Thursday, May 27, 2010 4:27 PM
To: john_bunyak@nps.gov; Sandra_V_Silva/R9/FWS/DOI.FWS@nps.gov; Barbara Samora (NPS); Copeland, Scott (ISDA, FS); Shepherd, Don (NPS); Janice Peterson (USDA-FS); Brewer, Pat (NPS); Rick Graw (USDA FS); Tim Allen (US FWS)
Cc: Rees, Sarah (ECY); Schneider, Doug; Newman, Alan (ECY); Oliver, Julie (ECY); Dhammapala, Ranil (ECY); Chen, Qing (ECY)
Subject: FLM - Ecology follow-up on Regional Haze SIP discussion

Federal Land Managers –

Thanks again for taking the time to review the draft Washington Regional Haze SIP, offer your comments, and meet with Ecology last week to discuss. Ecology found the discussion helpful and we are working to strengthen the SIP based on many of your comments. We would also like to thank you for your offer to help Ecology with some of the analysis requested in your comments on our document. Unfortunately, however, given the tight timelines that we are on in order to meet EPA's deadline, we will not be able to take you up on your offer.

Here are the steps Ecology is planning to take to address the concerns expressed in your written comments and during our meeting on 5/18. Ecology will:

1. Discuss the different emissions inventories and their use in the analysis, including additional discussion of why the PRP18a inventory was chosen for our analysis.
2. Expand on fire-related issues, including a discussion of the State's agricultural burning program.
3. Take a closer look at why visibility impairment gets worse at the North Cascades monitor.
4. Expand the four-factor analysis in chapter 9 and make it more similar to Oregon's.
5. Expand the discussion of monitoring data, specifically looking at the observed seasonal trends.

From the conversation on 5/18, it sounded like we can expect to receive the Forest Service's comments in the same form as what we received on 5/17 due to the logistics of getting the appropriate signature on a revised set of comments. The National Park Service is able to modify their official comments based on hearing from Ecology on our plans for updating the SIP in response to your initial comments.

The 60-day comment period officially ends on Friday, June 4, 2010. Given that it has taken Ecology more than a week to get back to you with the above, we can extend this comment period by 7 days. Please get your official comments to Ecology by Friday, June 11, 2010.

Thanks again for your assistance with the Washington Regional Haze SIP. We appreciate your willingness to work with us on submitting the Regional Haze SIP to EPA this fall.

Jeff

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Section B-3 Ecology's Summary of the U.S. Department of the Interior National Parks Service's Comments and Ecology's Response

The following is a summary of the comments offered by the USDI-NPS on the Consultation Draft RH SIP document. The draft Best Available Retrofit Technology (BART) determinations were previously commented on by the USDI-NPS during the public comment periods in Fall 2009. Most of the BART comments provided by USDI-NPS reiterated the comments provided during the BART public comment periods.

General comments:

Ecology provided a clearly written Consultation Draft RH SIP that contains several, but not all, of the key policy elements the USDI-NPS outlined in an August 2006 letter to the state. The Consultation Draft RH SIP demonstrates that using the Interagency Monitoring of Protected Visual Environments (IMPROVE) monitoring data and the technical analyses produced by the Western Regional Air Partnership (WRAP) that Washington understands the causes of visibility impairment at Class I areas in Washington.

The Consultation Draft RH SIP is missing the required analysis of factors to set Reasonable Progress Goals (RPG). The Consultation Draft RH SIP is also lacking a substantive long-term strategy for improving Visibility in Class I areas of Washington. The proposed RPGs do not reflect substantive improvement in visibility and in the case of the monitor representing the North Cascades NP and Glacier Peak Wilderness, projects degradation in visibility.

The BART determinations have addressed some of the USDI-NPS procedural concerns raised in November 2009 comments on the BART orders, but made no changes to the control requirements.

Response:

Ecology found the discussion helpful and we are working to strengthen the RH SIP based on many of FLMs comments. We would also like to thank the USDI-NPS for their offer to help Ecology with some of the analysis requested in your comments on our document.

Ecology made a commitment in an e-mail from Jeff Johnston to the FLMs dated May 27, 2010 to address the following concerns expressed during our meeting on May 18, 2010:

1. Discuss the different emissions inventories and their use in the analysis, including additional discussion of why the 2018 Preliminary Reasonable Progress Emissions (PRP18) inventory was chosen for our analysis.
2. Expand on fire-related issues, including a discussion of the State's agricultural burning program.
3. Take a closer look at why visibility impairment gets worse at the North Cascades monitor.
4. Expand the four-factor analysis in Chapter 9 and make it more similar to Oregon's.
5. Expand the discussion of monitoring data, specifically looking at the observed seasonal trends.

Further information on some of these specific items is provided below in the responses to more specific FLM comments.

Comments on Chapter 5 – Baseline and Natural Conditions:

National Park Service (NPS) suggests looking at time series of IMPROVE monitor results to better understand the timing and seasonal variability of sulfate nitrate and fires.

Response:

In evaluating baseline conditions, Ecology has evaluated the seasonality of various pollutants at the IMPROVE monitors to supplement the information in the Particulate Matter Source Apportionment Technology (PSAT) and Weighted Emissions Potential (WEP) analyses provided by WRAP. Additional information on the seasonality at each of the IMPROVE monitors has been added to Chapter 5.

Comments on Chapter 6 – Emissions Inventory:

USDI-NPS has a number of questions and requests for clarifications related to emission inventories that are used as the basis for the Consultation Draft RH SIP. The comments and questions ask Ecology to clarify:

- the inventory utilized by WRAP for establishing baseline condition modeling,
- what ‘on the books’ controls account for reduction in point source Sulfur Dioxide (SO₂)
- whether the PRP18a inventory included the effect of proposed BART determinations,
- the basis for selecting the PRP18a inventory and modeling utilized in the analyses for the SIP,
- the basis for emission differences between inventories (i.e. the growth in area source emissions between 2002 and 2018 inventories, the source of the reductions in Nitrogen Oxides (NO_x) between the PRP18a and PRP18b inventories) and
- differences between the potential 2018 inventories (specifically the PRP18a inventory used by Washington and the PRP18b inventory).

Response:

Ecology incorporated additional information into Chapter 6 Emissions Inventories and Chapter 7 WRAP Modeling. Ecology also added Appendix M Model Performance Appendix that specifically looks at how well the Community Multi-Scale Air Quality (CMAQ) performs in Washington. Further information may be found in the WRAP’s Technical Support System (TSS) Road Map located in Appendix G.

While the various inventories developed for the three scenarios played a role in the development of the technical analysis for the WRAP region, only PRP18a inventory was available when Ecology began developing the state’s RH SIP. By the time the WRAP PRP18b inventory and modeling were available, Ecology did not have time or resources to redo our analysis.

Comments on Chapter 7 – Western Regional Air Partnership Modeling:

Section 7.3 on model performance provides little information to judge the confidence of the state in the model results presented. NPS suggests that model performance charts for sulfate, nitrate

and Organic Carbon (OC) be presented. There should be a discussion on how well the WRAP models represent meteorology and measured values at IMPROVE monitors in Washington.

Ecology should clarify the significant differences between the inventory versions reported in Chapter 6 (WRAP 2002 Plan 02d and 2018 PRP18a), the earlier versions used for the PSAT modeling (2002 Plan 02c and 2018 base b) and the later 2018 inventory used in the WEP analysis (2002 Plan 02d and PRP18b).

Response:

Ecology incorporated additional information into Chapter 7 WRAP Modeling. Ecology also added Appendix M Model Performance Appendix that specifically looks at how well the CMAQ performs in Washington.

Ecology expanded the emission inventory chapter to include information on the baseline and projected inventories.

Comments on Chapter 8 – Source Apportionment of Washington’s Mandatory Class I Areas and Washington’s Impacts on Out-of-State Mandatory Class I Areas:

This work is accurately performed. Consider the residence time plots in the Causes of Haze technical information archive for more additional information.

Response:

Thank you for your comment. Ecology has considered this information in addressing projected visibility for North Cascades National Park and Glacier Peak Wilderness.

Comments on Chapter 9 – Reasonable Progress Goals:

Ecology has not met the requirements of 40 CFR 51.308(d)(1) on setting RPGs in this chapter.

The RPGs set are the same as the WRAP PRP18a modeling results. The document does not indicate how the statutory four factors were considered in setting these progress goals.

Specifically for the NOCA1 monitor which represents the North Cascades National Park and Glacier Peak Wilderness, the WRAP 2018 modeling indicates that sulfate and OC are projected to increase and the projected visibility increases. With this situation it is difficult to understand how Ecology can conclude existing controls are sufficient to demonstrate reasonable progress. Ecology needs to analyze the cause of this increase so that appropriate strategies can be developed to prevent it.

As part of the company-specific four factor analysis we request that Ecology require low NO_x and ultra low NO_x burner replacements identified as cost effective in the Tesoro BART analysis but unable to be performed within the BART timeframe.

The USDI-NPS used the WRAP Emissions Data Management System (EDMS) to produce a list of 37 emission units in Washington that each has projected emissions above 350 tons of SO₂ or NO_x per year. Such a list can be used along with information on the distance of the source from

a Class I Area and the residence time of air over the grid cell containing the unit to help prioritize Ecology's intended emission control analysis for the long-term strategy.

Ecology is using the PRP18a emission inventory and modeling results. The PRP18b inventory includes emission reductions that are not part of the PRP18a inventory. The PRP18b modeling indicates slightly better visibility than the PRP18a modeling. If the PRP18b inventory is more accurate, Ecology should cite the PRP18b modeling results in its analyses.

Response:

Ecology incorporated additional information into Chapter 6 Emissions Inventories and Chapter 7 WRAP Modeling. Ecology also developed Appendix F – Four Factor Analysis, and incorporated new information into Chapter 9 – RPG and Chapter 10 – Long Term Strategy (LTS) for Visibility Improvement.

Ecology's investigation of the projected increases in visibility impairment at NOCA1 concluded that the projected increase in visibility impairment is the result of the comparatively long residence time of air parcels near the monitor combined with the presence of large point sources of SO₂.

More importantly, Ecology found that all of the WRAP's 2018 emission inventories (including the PRP18a inventory) did not include almost 9,500 tons per year of sulfur reductions from 3 oil refineries located in 2 counties indicated by residence time analysis to have the greatest potential for impacting NOCA1. As a consequence of sulfur reductions for the 3 refineries 27 times larger than those in WRAP 2018 inventories and the inordinately large fires that occurred in 2003, Ecology updated Chapter 9 – RPGs to set "no degradation" as the RPG for NOCA1. Time and resources did not allow this revised goal to be modeled at this time, but modeling will be performed for future SIP updates.

Ecology is continuing to explore all available options for requiring the addition of the low NO_x and ultra low NO_x burners at the Tesoro refinery that were not cost effective within the BART timeframe.

Comments on Chapter 10 LTS for Visibility Improvement:

This chapter should contain a discussion of the BART controls required. These facilities and emission units still may need to reduce emissions to make reasonable progress to improve visibility.

Washington's silvicultural Smoke Management Plan (SMP) was included in the 1999 Reasonably Attributable Visibility Impairment (RAVI) SIP. Has this been updated since 1999? A discussion of the state's program for controlling agricultural burning needs to be included. These discussions are to determine how the programs restrict emissions.

A wood stove emission limitation is discussed, but the relationship of this limitation and the apparent increase in residential wood combustion emissions included in the emission inventory is not explained.

Response:

Ecology has revised Chapter 10 – LTS for Visibility Improvement. Chapter 11 – BART includes a discussion of the controls required and the modeled visibility improvements based on the required BART controls.

The Washington State Department of Natural Resources (DNR) administers the silvicultural SMP. The DNR has not updated the plan since it was incorporated into the 1999 revision to the RAVI SIP.

Additional information on the state’s agricultural burning program has been added to Chapter 10.

Ecology expanded the discussion on the relationship between increases in residential wood combustion (wood stove usage) due to population growth as reflected in the 2018 emission inventories and the affect on RPGs in Chapter 9 RPGs.

Comments on Chapter 11 – Best Available Retrofit Technology and Best Available Retrofit Technology determinations:

Ecology has not fully addressed our previous comments (November 20, 2009).

Ecology has not adequately evaluated the potential visibility improvement resulting from emission controls. The visibility benefits at all affected Class I areas resulting from controlling emissions at a particular source should be part of the process of making the decision on BART controls.

USDI-NPS has one overall comment applicable to all the BART determinations: Ecology should be evaluating the cumulative visibility improvement at all Class I Areas in determining cost effective emission controls for BART.

Alcoa Wenatchee

The modeling that was used to exempt this source from BART is unacceptable and a BART determination should be made.

For the following plants, the comments submitted on the individual BART determinations reiterate concerns raised as part of comment on the draft BART Orders; TransAlta Centralia Power Plant, Tesoro, Port Townsend Paper Co., and Alcoa Intalco.

Response:

The USDI-NPS previously commented on the draft BART determinations during the two public comment periods in Fall 2009. By-and-large the BART comments provided by USDI-NPS reiterated the comments provided during the BART public comment periods.

Ecology prepared summaries of the comments received during the two BART comment periods and prepared written responses to the comments received. Ecology also revised several of the BART technical support documents addressing concerns raised by USDI-NPS. Copies of these summaries and responses along with the revised technical support documents are included in

Appendix L – Best Available Retrofit Technology Technical Support Documents and Compliance Orders.

As discussed in Appendix I, Ecology believes that given the complex terrain found in the vicinity of Alcoa Wenatchee Works, the finer grid modeling that we accepted provide more realistic results for the impacts of the facility on Alpine Lakes Wilderness.



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

Air Resources Division

P.O. Box 25287

Denver, CO 80225



June 11, 2010

N3615 (2350)

Ted Sturdevant, Director
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Dear Mr. Sturdevant:

On April 1, 2010, we received Washington's draft regional haze implementation plan for review. We appreciate the opportunity to work with the State through the development and review of this plan to make progress toward achieving natural visibility conditions at our National Parks and Wilderness Areas.

This letter acknowledges that the U.S. Department of the Interior, National Park Service, in consultation with the U.S. Fish and Wildlife Service, has received and conducted a substantive review of the Washington draft Regional Haze Rule implementation plan in fulfillment of your requirements under the federal regulations 40 CFR 51.308(i)(2). Please note, however, that only the U.S. Environmental Protection Agency (EPA) can make a final determination regarding the document's completeness and, therefore, ability to receive federal approval from EPA.

Our review focused on eight key content areas that were outlined in a letter dated August 1, 2006, that we sent to each State. The content areas reflect priorities for the Federal Land Manager agencies, and our enclosed comments address these priorities. As we have discussed with your staff, we are concerned that the draft implementation plan as written does not meet all the regulatory requirements of the Regional Haze Rule. Washington has proposed reasonable progress goals without conducting the required four factor analysis of possible emission controls. The proposed reasonable progress goals do not reflect substantive improvement in visibility, and in the case of North Cascades National Park and Glacier Peak Wilderness Area, actually project a degradation in visibility by 2018 compared to the 2000-2004 baseline. We also have concerns with the determinations of Best Available Retrofit Technology (BART). Our BART comments supplement those that we provided on November 20, 2009.

We had a constructive discussion with your staff on May 18, 2010, and have offered our assistance in addressing our technical concerns. We look forward to continued dialog as you revise the implementation plan and respond to our comments per section 40 CFR 51.308(i)(3). For further information regarding our comments, please contact Pat Brewer of my staff, at (303) 969-2153.

Again, we appreciate the opportunity to work closely with the State of Washington to improve visibility in our Class I national parks and wilderness areas.

Sincerely,



for Christine L. Shaver
Chief, Air Resources Division

Enclosure

cc: Mahbubul Islam
Manager, State and Tribal Air Programs Unit
U.S. EPA Region 10
1200 Sixth Avenue
Seattle, WA 98101

Stuart Clark
Manager, Air Quality Program
Department of Ecology
P.B. Box 47600
Olympia, Washington 98504-7600

National Park Service Comments
Washington Draft State Implementation Plan for Regional Haze
June 11, 2010

General Comments

Washington Department of Ecology (Ecology) has provided a clearly written draft regional haze State Implementation Plan (SIP). The draft plan contains several, but not all, of the key policy elements that we outlined in our August 2006 letter to the States. Ecology has demonstrated using the IMPROVE monitoring data and technical analyses provided by the Western Regional Air Partnership (WRAP) that Washington understands the causes of visibility impairment at the Class I areas in Washington.

The draft SIP is missing the required analysis of the four statutory factors to set reasonable progress goals and lacks a substantive long-term strategy for improving visibility in Class I areas in Washington. Ecology is taking few actions beyond reporting existing federal or previous state actions. Ecology needs to do more to demonstrate its commitment to improving visibility.

Ecology's Best Available Retrofit Technology (BART) determinations addressed some of our procedural concerns, but made no changes in control requirements from the draft BART determinations.

We provide more detailed comments on these concerns below. We also agree with comments provided by the Forest Service. We are willing and would welcome the opportunity to assist Ecology to implement the recommended analyses prior to submitting the final SIP to EPA.

Specific Comments

Chapter 5 Baseline and Natural Conditions

It would be helpful to look at daily time series data for each IMPROVE monitor for each year to better understand the frequency of contributions from fire (e.g., few major events vs multiple smaller events) and to better characterize the seasonal variation in contributions from nitrate and sulfate. Daily time series plots can be generated from the VIEWS website (<http://views.cira.colostate.edu/web/>).

Chapter 6 Emissions Inventory

WRAP provided several inventories to the western states to support regional planning. Ecology has chosen to discuss only two of the available WRAP inventory versions, 2002 Plan d (Plan02d) and 2018 Projected Reasonable Progress version a (PRP18a). It would be helpful to report that a 2002 actual inventory was used for model performance evaluation for the 2002 base year and to clarify how those emissions differed from the 2000-2004 average emissions used in Plan 02d.

Ecology should provide more discussion of the basis for differences between the 2002 Plan02d and the 2018 PRP18a inventory. Please identify the specific On the Books controls that account for the reduction in point source sulfur dioxide (SO₂). Please define whether the PRP18a inventory includes all the controls determined to be BART for sources subject to BART in Washington.

Please discuss the basis for increases between 2002 and 2018 in emissions of SO₂ from area sources and increases in emissions of nitrogen oxides (NO_x), volatile organic compounds (VOC), primary organic carbon (OC), and elemental carbon (EC) from point and area sources. It is difficult to claim progress in improving visibility when Washington emissions are increasing rather than decreasing.

Please clarify why Ecology chose to use the earlier 2018 PRP18a inventory rather than the more recent 2018 PRP18b inventory. We recommend that Ecology use the PRP18b inventory and modeling results. At a minimum, Ecology should explain the significant differences between the PRP18a and PRP18b inventories and define which inventory is more accurate. For example, total projected SO₂ emissions from Washington point sources were 12,262 tons lower in the PRP18b inventory than in the PRP18a inventory. Total NO_x emissions from point sources were 5,250 tons lower in PRP18b than PRP18a. Are these differences due to emissions controls or changes in inventory methods? Did Ecology or WRAP generate these inventory changes?

Chapter 7 WRAP Modeling

Section 7.3 on model performance provides very little information to judge the confidence to place in the modeling results reported over the next 50 pages. It is preferable for Ecology to include model performance charts for sulfate, nitrate, and organic carbon. At a minimum, Ecology should discuss how well the regional models represent meteorology and air quality at the IMPROVE monitors in Washington.

The last sentence in section 7.3 is incomplete.

Section 7.4 accurately discusses the Particulate Source Apportionment Technology (PSAT) modeling and the Weighted Emissions Potential analyses (WEP). In Section 7.4.3 it is important for Ecology to clarify the significant differences between the inventory versions reported in Section 6 (WRAP 2002 Plan02d and 2018 PRP18a), the earlier inventories used for the PSAT modeling (2002 Plan02c and 2018 base b) and the later 2018 inventory used in the WEP analyses (2002 Plan02d and 2018 PRP18b).

Please correct the figure title for Figure 7-3 which refers to WEP results not PSAT results. The last two sentences in Section 7.4.3 appear contradictory.

Chapter 8 Source Apportionment

WRAP's PSAT results for sulfate and nitrate source apportionment and the WRAP WEP analyses are accurately reported. Residence time analyses can assist in defining source areas that

most frequently impact Class I areas. In addition to the residence time plots available on the WRAP Technical Support System (TSS) under the WEP analyses, residence time plots are also provided under the Causes of Haze technical archive:

http://www.coha.dri.edu/images/backtraj/wa_w20_0500m_backtraj_northcascades.gif.

Chapter 9 Reasonable Progress Goals

Ecology has not met the requirements of the regional haze rule Section § 51.308 (d) (1):

“The reasonable Progress goals must provide for an improvement in visibility for the most impaired days...

- (i) In establishing a reasonable progress goal for any mandatory Class I Federal area within the State, the State must:
 - (A) Consider the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected sources, and include a demonstration showing how these factors were taken into consideration in selecting the goal.”

Ecology set reasonable progress goals for the Class I areas in Washington the same as the WRAP PRP18a modeling results. DOE did not consider the four statutory factors. Modeled visibility in 2018 does not meet the uniform rate of progress for 2018. At North Cascades National Park and Glacier Peak Wilderness Area, visibility is projected to degrade by 2018. Both sulfate and organic carbon are projected to increase at North Cascades National Park in 2018 compared to 2002. This result does not comply with Section § 51.308 (d) (1). Ecology needs to explain the basis for these results.

It is difficult to see how Ecology can conclude that the existing controls are sufficient to demonstrate reasonable progress, especially when point and area source emissions in Washington are projected to increase by 2018.

Tesoro Refining and Marketing Company originally proposed to install and operate low NOx burners or ultra low NOx burners on process heaters by 2018 as part of their Best Available Retrofit Technology (BART) proposal. Ecology found the proposed controls to be technically and economically feasible. Since Tesoro proposed to install controls on two heaters during a regularly scheduled maintenance outage in 2017, these controls were determined to be too late to meet BART requirements and not required in Tesoro’s permit. We ask Ecology to require by permit that these controls be operational by 2018 as part of the current reasonable progress demonstration.

The regional haze rule Section § 51.308 (d) (1) (vi) instructs:

“The State may not adopt a reasonable progress goal that represents less visibility improvement than is expected to result from implementation of other requirements of the CAA during the applicable planning period.”

Ecology is using the WRAP PRP18a inventory for reasonable progress goals, yet the more recent WRAP PRP18b inventory has lower emissions and the PRP18b modeling results project slightly better visibility at the Class I areas than the PRP18a modeling results. If the PRP18b inventory and modeling results provide a more accurate representation of visibility benefits from expected controls by 2018, then Ecology should cite the PRP18b modeling results.

For the reasonable progress analysis, Ecology should identify the major sources in Washington that may contribute to visibility impairment in Class I areas and potential future controls.

Using the WRAP Emissions Data Management System (EDMS), in the attached table we identified 37 individual units in Washington that have projected 2018 emissions greater than 350 tons per year of either SO₂ or NO_x in the WRAP PRP18a inventory. (Facility name is listed more than once if there are multiple processes at one facility.)

Ecology could use data available through the WRAP EDMS and WRAP WEP to qualitatively rank the potential contributions of Washington point sources to Class I areas. Emissions, distance from the source to the Class I area, and residence time of the grid cell where the source is located can be used to rank the relative importance of specific point sources for consideration in a reasonable progress analysis. Such an analysis is advisable to prioritize DOE's intended control analysis under the long-term strategy. We are available to assist in such an analysis.

Chapter 10 Long Term Strategy

The long-term strategy should include a discussion of the BART controls. Even if exempted from BART, industrial sources may still need to reduce emissions to make reasonable progress toward improving visibility.

Ecology indicates that Washington's silvicultural Smoke Management Plan was included in the 1999 SIP for Reasonably Attributable Visibility Impairment (RAVI). Please clarify if the Smoke Management Plan has been updated since 1999. Please provide additional discussion of the state's control requirements for agricultural burning. More discussion is needed to demonstrate how these smoke management programs restrict emissions.

Ecology discusses that Washington has already implemented a program to address residential wood combustion but does not discuss that the inventory provided by WRAP for this sector is increasing, not decreasing. Please clarify whether the WRAP PRP18a inventory accounts for Washington's residential wood control programs.

Chapter 11 Best Available Retrofit Technology (BART)

Ecology has not fully addressed our previous comments (November 20, 2009).

BART sources in Washington impact several Class I areas. Cumulative visibility impacts need to be considered when determining the appropriate level of control for BART. Ecology's response that there is no single clearly defined method to consider cumulative impacts does not

address our concern. The visibility benefits of controlling a source that impacts 12 Class I areas are greater than the benefits of controlling a source that impacts 1 Class I area, and Ecology's BART analyses should consider cumulative, multi-park impacts. We are willing to assist you in calculating cumulative impacts and multi-park benefits of control scenarios.

Our detailed comments on the proposed BART determinations are provided in the attached analyses and summarized below.

Alcoa Wenatchee: We strongly disagree with using an ultra fine modeling grid to exempt Alcoa Wenatchee from BART eligibility. Control options for this source should have been evaluated.

Centralia:

- We believe that Selective Catalytic Reduction (SCR) is both technically feasible and cost effective to reduce visibility impacts and should be determined to be BART for Centralia.
- TransAlta assumes that due to space constraints, SCR would have to be located on top of the electrostatic precipitator (ESP). TransAlta did not consider the feasibility of a downstream location. Ecology should not have eliminated low-dust and tail-end SCR with resized ductwork as feasible options.
- Ecology has underestimated the ability of SCR to reduce emissions. Ecology assumes that SCR can achieve an annual emissions limit of 0.07 lb/mmBtu or 70% NOx reduction. EPA's Clean Air Markets data base demonstrates that 19 units are achieving an annual emissions rate of 0.05 lb/mmBtu or 90% NOx removal. By underestimating SCR efficiency, cost effectiveness is underestimated.
- Costs of SCR installation are overestimated. The EPA Control Cost manual should have been used as recommended by EPA in the BART guidelines. Several cost items were included in the analysis that are not allowed in the Cost Manual.
- With higher removal efficiency and lower total costs, NPS estimated a reasonable cost effectiveness at \$5622/ton, compared to \$9091/ton estimated by TransAlta's consultant.
- TransAlta underestimated the visibility benefits of SCR. TransAlta has lowered sulfur dioxide emissions by burning low sulfur coal from Powder River Basin in Wyoming (called FlexFuel project). TransAlta evaluated the visibility benefits of Selective Noncatalytic Reduction (SNCR) with FlexFuel but evaluated SCR without the benefit of FlexFuel. Thus the benefits of SCR are underrepresented.
- We have previously asked Ecology to consider the cumulative visibility impacts of TransAlta on the 12 Class I areas that are within 300 km of the facility, and the potential visibility improvements in those areas from the various control alternatives.

Tesoro:

- Ecology found that NOx emissions controls originally proposed as BART by Tesoro are appropriate and cost effective to implement in the 2017-2018 timeframe. Because these controls cannot be installed by 2015, Ecology determined that they did not meet the BART requirements. Ecology should require these controls to be installed by 2018 as part of reasonable progress.

Port Townsend:

- Ecology must evaluate all technically-feasible and proposed options against the proposed BART limits if these are higher than current emissions limits.
- Ecology must evaluate the visibility impacts of switching to lower sulfur fuels.
- Ecology should have evaluated upgrades to existing control equipment.
- We believe a wet Electrostatic Precipitator for Power Boiler #10 is cost effective and represents BART.

Intalco:

- Costs of Limestone Slurry Forced Oxidation were overestimated.
- Intalco and Ecology should better explain why seawater scrubbing and sodium-based scrubbing were rejected for potline SO₂ emissions.

Conclusions

We would like to see Ecology make a more substantive effort to reduce emissions to improve visibility. We are willing to assist Ecology to address the concerns raised in this review.

Washington Point Source 2018 Emissions SO2 or NOx Greater than 350 Tons/Year
 (from Western Regional Air Partnership; plant name is listed more than once if there are multiple units and/or processes at one facility)

Source Category	Source Category	Plant Name	2018 SO2 tons/yr	2018 NOx tons/yr
Primary Metal Production	Aluminum Ore (Electro-reduction)	Aluminum Co Of America Wenatchee Works	3,026	56
		Goldendale Aluminum	433	63
		Intalco Aluminum Corp Ferndale	4,734	29
Pulp and Paper and Wood Products	Sulfate (Kraft) Pulping	Boise Cascade	3,873	609
		Fort James Camas Llc	12	589
		Longview Fibre	125	815
		Pt Townsend Paper	448	374
		Simpson Tacoma Kraft	557	543
		Weyerhaeuser Co	67	839
	Sulfite Pulping	Fort James Camas Llc	8	480
	Weyerhaeuser Co.	284	572	
Petroleum Industry	Process Heaters	Bp Cherry Point Refinery	904	1,684
		Conoco Phillips	744	640
		Puget Sound Refining Company	16	577
		Tesoro Northwest Company	1,100	761
	Flares	Puget Sound Refining Company	665	29
		Catalytic Cracking Units	Puget Sound Refining Company	1,571
	Petroleum Coke Calcining	Bp Cherry Point Refinery	245	843
Blowdown Systems	Conoco Phillips	559	393	
Mineral Products	Cement Manufacturing (Wet Process)	Lafarge North America Inc	1,209	3,528
	Cement Manufacturing (Dry Process)	Ash Grove Cement Co, E Marginal	312	1,597
	Glass Manufacture	Cardinal FG	72	830
		Saint-Gobain Containers Inc	193	669
	Lime Manufacture	Graymont Western Us Inc Total	151	394
Chemical Manufacturing	Nitric Acid	Agrium Us Inc	0	415

Source Category	Source Category	Plant Name	2018 SO2 tons/yr	2018 NOx tons/yr
Electric Generation	Bituminous/ Subbituminous Coal	Transalta Centralia Generation	2,491	14,477
	Wood/Bark Waste	Avista	9	660
	Residual Oil	Daishowa America	412	71
Industrial Combustion Boilers	Process Gas	Conoco Phillips	1,223	103
		Longview Fibre	1,898	27
		Puget Sound Refining Company	4	629
		Tesoro Northwest Company	3,775	1,650
	Wood/Bark Waste	Kimberly-Clark Corporation	499	571
		Weyerhaeuser Co	821	1,666
	Residual Oil	Tesoro Northwest Company	707	117
Natural Gas	Longview Fibre	1	499	
Solid Waste Disposal - Government	Municipal Incineration	Waste To Energy	15	451

Section B-5 Ecology's Summary of the U.S. Department of Agriculture Forest Service's Comments and Ecology's Response

The following is a summary of the comments offered by the USDA-FS on the Consultation Draft RH SIP document.

General comments:

The major concerns with the draft is the projected worsening of visibility for the Glacier Peak Wilderness area and the rate of progress to restore visibility to conditions at all monitoring sites, but especially at the PASA1 IMPROVE monitoring site representing the Pasayten Wilderness.

The USDA-FS also has concerns with these specific issues:

- emission inventories contains unexplained increases in point and area source emissions
- source apportionment analysis which is too broad to identify specific emissions sources
- four factor analysis presented in the Consultation Draft RH SIP is lacking and not adequate to use in development of reasonable progress goals or a long-term strategy
- BART determinations should be revisited and more aggressive emission reductions selected because of the rate of progress and projected worsening of conditions

The USDA-FS also has concerns about possible implications of errors in:

- projected future emissions from emissions from anthropogenic fires
- commitment to improving air quality and visibility in the Columbia River Gorge
- changes to Class I Area Boundaries since 1977

Response:

Ecology found the discussion helpful and we are working to strengthen the RH SIP based on many of FLMs comments.

Ecology made a commitment in an e-mail from Jeff Johnston to the FLM dated May 27, 2010 to address the following concerns expressed during our meeting on May 18, 2010:

1. Discuss the different emissions inventories and their use in the analysis, including additional discussion of why the PRP18a inventory was chosen for our analysis.
2. Expand on fire-related issues, including a discussion of the State's agricultural burning program.
3. Take a closer look at why visibility impairment gets worse at the North Cascades monitor.
4. Expand the four-factor analysis in Chapter 9 and make it more similar to Oregon's.
5. Expand the discussion of monitoring data, specifically looking at the observed seasonal trends.

Further information on some of these specific items is provided below in the responses to more specific FLM comments.

Comments on emission inventories:

What are the sources of the large increases in point and area source emissions projected for 2018?

Response:

A more thorough understanding of the sources that contribute to visibility impairment is beneficial in understanding the effects on Class I Areas. We note that taken together point and area source emissions of SO₂ decrease as do mobile source emissions. The result is an overall 40% emissions decrease. Point and area source emissions of NO_x are projected to increase, but this increase is small compared to the much larger projected decrease in mobile source emissions. Point and area sources of Volatile Organic Compounds (VOCs) and OC are projected to increase but there is some uncertainty about these inventories and they could be improved.

Ecology incorporated additional information into Chapter 6 – Emissions Inventories and Chapter 7 – WRAP Modeling. Chapter 9 RPGs includes discussions on the effects of the projected increases on rate of progress.

Comments on source apportionment:

Overall the USDA-FS suggests the source apportionment analyses performed could be improved, suggesting a number of techniques that could be used to improve the analyses and point to sources or source categories that could be addressed to reduce visibility impairment. Examples cited are seasonal evaluation of the sulfate impact at the SNPA1 site representing the Alpine Lakes Wilderness.

A more thorough analysis by individual pollutant (NO_x for nitrates, SO₂ for sulfates, etc.) of the sources that impact the NOCA1 monitor should be performed, including re-evaluation of BART for the sources indicated contribute or cause visibility impairment within the North Cascades National Park or Glacier Peak Wilderness, identification of other contributing sources and a proposal to reduce emissions from those sources, an explanation of how Ecology will address the Canadian sources that contribute to visibility impairment. The USDA-FS suggests this type of analysis should be performed for each of the mandatory Class I Areas in Washington.

Response:

Ecology evaluated the seasonality of various pollutants at the IMPROVE monitors to supplement the information in the PSAT and WEP analyses provided by WRAP. Additional information on the seasonality at each of the IMPROVE monitors has been added to Chapter 5.

The NOCA1 situation is discussed more thoroughly below in response to comments on RPGs. Briefly, the modeled impacts showing increased visibility degradation appear to result from the long residence time of air parcels near the monitor and the presence of large point source of SO₂. More importantly, All the WRAP 2018 emission projections are flawed. Three large oil refineries in the residence time area with the greatest potential impact on NOCA1 have unaccredited emission reductions totaling almost 9,500 tons of SO₂ per year. A discussion of Ecology's findings is found in Chapter 9 – RPGs.

Comments on Reasonable Progress Goals:

While Ecology notes that potential controls to further reduce emissions are “not reasonable at this time” due to the need for Ecology to evaluate their applicability to sources in the state, determining the visibility benefits of implementing controls, and putting controls into regulatory form. This rationale is different from the four factors and Ecology has not provided sufficient basis for why it will take so long to attain natural conditions.

The WRAP report contained in Appendix F is not specific to sources in Washington, and thus is too general to provide sufficient information to develop RPGs. Ecology needs to take the next steps in conducting a four factor analysis for sources specific to Washington State.

Another related issue pertains to Ecology’s RPG for North Cascades National Park and Glacier Peak Wilderness. The USDA-FS finds that the WRAP modeling that projects degradation at these two Class I Areas represented by the NOCA1 monitor is unacceptable and counter to the requirements of the RHR. The rate of progress for the other Class I areas extends beyond the 2064 goal is not acceptable to the USDA-FS.

The USDA-FS goes on with a number of specific questions on elements of the plan related to the setting of the RPG and the emission inventory. Questions revolve around the source of primary organic aerosols from area sources and how sulfate can increase in proportion of the total visibility impairment when primary SO₂ emissions go down. They would also like to determine when ammonia is a limiting pollutant in the formation of haze and how Ecology plans on addressing ammonia emissions.

Response:

Ecology also developed a set of Washington-specific Four Factor Analyses (Appendix F) and incorporated new information into Chapter 9 – RPG, and Chapter – 10 LTS for Visibility Improvement. This information includes identification of candidate source categories for control of SO₂ and NO_x and the approximate time lines involved in developing rules or regulatory orders and the anticipated timeframe for installing the newly required controls.

Ecology’s investigation of the projected increases in visibility impairment at NOCA1 concluded that the projected increase in visibility impairment is the result of the comparatively long residence time of air parcels near the monitor combined with the presence of large point sources of SO₂.

More importantly, Ecology found that all of the WRAP’s 2018 emission inventories (including the PRP18a inventory) did not include almost 9,500 tons per year of sulfur reductions from 3 oil refineries located in 2 counties indicated by residence time analysis to have the greatest potential for impacting NOCA1. As a consequence of sulfur reductions at these 3 refineries 27 times larger than those in WRAP 2018 inventories and the inordinately large fires that occurred in 2003, Ecology updated Chapter 9 – RPGs to set “no degradation” as the RPG for NOCA1. Time and resources did not allow this revised goal to be modeled at this time, but modeling will be performed for future SIP updates.

The RHR breaks the RH Program into several planning phases extending from 2005 to 2064. This foundational RH SIP covers the initial planning period from 2005-2018. For this

foundational plan, Ecology incorporated additional information into Chapter 6 – Emissions Inventories and Chapter 7 – WRAP Modeling. Ecology also incorporated new information into Chapter 9 – RPGs and Chapter 10 – LTS for Visibility Improvement on the effects of the projected emissions increases on rate of progress. During future planning periods the SIP will be reviewed and revised to address Washington’s emissions.

Comments on the Long-Term Strategy:

Tables in Chapter 8 indicate that Washington sources contribute to visibility impairment in Oregon, Idaho, and Montana Class I areas. However, the Consultation Draft RH SIP does not discuss how Washington plans to reduce emissions that affect these out-of-state Class I areas. The plan needs to include information addressing how Washington plans to reduce the impact of its emissions on visibility in Class I areas in other states assisting them in meeting their reasonable progress goals. USDA-FS also encourages Ecology to consider sustainability and energy conservation as part of its Long-Term Strategy for all pollutants.

Response:

Participation in the WRAP fostered a regionally consistent approach to RH planning in the western states and provided a sound mechanism for consultation. The result is that the western states have agreed upon the RPGs being set for 2018 and the appropriateness of strategies to achieve these goals for all mandatory Class I Areas in the WRAP region. To put the matter in its simplest terms, controls including BART to reduce visibility-impairing pollutants at mandatory Class I Areas within Washington will also contribute to visibility improvement at mandatory Class I Areas outside Washington.

We appreciate your suggestion about sustainability and energy conservation. Washington State is a leader in addressing climate change. We expect these activities will be reflected in future RH SIPs.

Comments on New Source Review:

The USDA-FS asks that there be a clear linkage between the Prevention of Significant Deterioration (PSD) process and the RH SIP. To avoid potential confusion, at facilities in which federally enforceable emission reductions are created as part of the State RH SIP, please clarify that these emission reductions could not also be used as credits in the determination of net emission increase as used in determining applicability of PSD.

Response:

These emissions reductions cannot be used as credits in the determination of net emission increase in determining the applicability of PSD. This has been incorporated into Chapter 11 – BART.

Comments on BART Modeling:

The USDA-FS has two major issues with the draft BART determination and suggests that the State’s BART determinations should be re-evaluated in light of the rate of progress in attaining natural conditions. The note that Ecology dismissed several control options due to cost has limited the rate of progress. Ecology should focus on the facilities which contribute to visibility impairment, especially at the Class I areas in which visibility is not expected to improve or

improve very slowly. Consider the pollutants which contribute impairment and the leeway Ecology has in determining BART. When considering the cost and benefits, we ask Ecology to take a more determined approach in selecting BART which will allow for a faster rate of improvement than currently projected.

Response:

The draft BART determinations were previously commented on by the USDA-FS during the public comment periods in Fall 2009.

Ecology prepared summaries of the comments received during the two BART comment periods and prepared written responses to the comments received. Ecology also revised several of the BART technical support documents addressing concerns raised by USDA-FS. Copies of these summaries and responses along with the revised technical support documents are included in Appendix L – BART Technical Support Documents and Compliance Orders.

Comments on BART Exemption Modeling:

The USDA-FS disagrees with the modeling performed to exempt the Alcoa Wenatchee aluminum smelter was done incorrectly and the plant should be subject-to-BART.

Response:

As discussed in Appendix I - 0.5-km Grid Spacing to Evaluate the Impacts of BART, Ecology believes that given the complex terrain found in the vicinity of Alcoa Wenatchee Works, the finer grid modeling that we accepted provides more realistic results for the impacts of the facility on the Alpine Lakes Wilderness. The Washington – Oregon – Idaho Modeling Protocol (found in Appendix H) was developed to provide consistency between the BART modeling done in the three states. However, authors of the protocol agreed that the document was to be a guideline, and that states would have the ability to deviate from the guideline under certain circumstances. Ecology believes that the particular circumstance of Alcoa Wenatchee Works, specifically the complex terrain surrounding the facility, was an instance in which an exception to the modeling protocol was technically justified. Ecology is concerned about visibility in the Alpine Lakes Wilderness and we will work over the coming years with a variety of tools to improve visibility conditions.

Comments on expectations of emissions from fire:

The USDA-FS indicates that the projected 30% reduction in anthropogenic fire emissions is unrealistic and may hamper the ability to achieve the goals of the RHR. In general Ecology needs to better clarify the sources included in the category, especially clarify what is an anthropogenic fire and what is a natural fire. The text of the sections discussing anthropogenic and natural fires may be misleading and adversely interfere with the USDA-FS in its goal of lighting more small fires to prevent large wildfires.

Response:

The fire emissions inventory was developed by the WRAP Fire Emissions Joint Forum. The projected emission reductions reflect the most likely emission reduction techniques that would be applied to both prescribed fire and agricultural burning throughout the entire WRAP region.

The WRAP Fire Emissions Joint Forum created the Natural Background Task Team to develop a methodology to classify fire as either “natural” or “anthropogenic.” Additional information about how fire was categorized has been added to Chapter 6 Emissions Inventories.

Comments on Columbia River Gorge National Scenic Area:

This Regional Haze plan should coordinate with the strategy being developed to protect and improve visibility within the Columbia River National Scenic Area. The USDA-FS asks Ecology continue its commitment towards protecting and enhancing air quality and visibility in the scenic area by adding language to the Washington SIP similar to that included in Section 1.6.2 of the Oregon RH SIP.

Response:

In 2007 the Washington State Legislature restored funding for activities need to develop the RH SIP for the 8 mandatory Class I Areas in Washington as required by the RHR. The Legislature did not restore funding for all visibility related activities. Since the Columbia River Gorge National Scenic Area is a Class II Area it is not addressed by the RH SIP.

Washington has responded to an information request by the Oregon Department of Environmental Quality (ODEQ) on how smoke is controlled in Washington so that this can be included in the Columbia Gorge Air Quality Strategy that ODEQ is developing.

Comments on correction to Class I area boundaries:

The USDA-FS notes that there is an incorrect sentence in Chapter 4 and the map of the Alpine lakes wilderness in Figure 4-4 is incorrect and provides Ecology with an updated map for use.

Response:

Ecology has removed the questioned sentence from Chapter 4. We revised Figures 4-1 and 11-1 showing the boundaries of the Alpine Lakes Wilderness. Figure 4-4 is from Causes of Haze Assessment Descriptive Maps and we are unable to revise this figure.



United States
Department of
Agriculture

Forest
Service

Pacific
Northwest
Region

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File Code: 2580

Date: June 8, 2010

Mr. Doug Schneider
Regional Haze SIP Coordinator
Air Quality Program
Washington Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

Dear Mr. Schneider:

Re: Forest Service Technical Comments on Regional Haze SIP

As the federal land manager, responsible for protecting visibility in five of the eight federal Class I wilderness areas in the State of Washington, the USDA Forest Service has a vested interest in the outcome of Washington's Regional Haze (RH) State Implementation Plan (SIP). As such, we have been actively involved in numerous meetings with Ecology during the development of this plan. We have submitted numerous comments during the development of the BART determinations, and now we appreciate the opportunity to see the culmination of Ecology's efforts in the proposed Regional Haze SIP.

After reviewing this document, we conclude that we are dissatisfied with the draft RH SIP. Our dissatisfaction stems from two major areas of concern (1) the expected worsening of visibility in the Glacier Peak Wilderness, and (2) the extremely slow rate of progress in restoring visibility to natural conditions at the Pasayten Wilderness (698 years). We are also dissatisfied with the slow rate of progress anticipated for Alpine Lakes, Goat Rocks, and Mt Adams Wilderness areas. We would like to see Ecology develop a plan in which visibility will be restored to natural conditions within a much shorter time frame than currently proposed.

Our concerns on specific issues of the plan include: unexplained increases in the emission inventories of point and area sources, source apportionment which is too broad to identify specific emission sources, and a lack of an adequate four-factor analysis in developing Reasonable Progress Goals (RPGs). Consequently, the long-term strategy is not specific enough to lay the foundation for restoring visibility impairment in a timely manner. Given the slow rate of progress and projected worsening of conditions, we believe the BART determinations should be revisited and more aggressive emission reductions selected. We have provided numerous comments on individual BART assessments. We ask Ecology to revisit our comments in light of establishing faster rates of progress.

We also have concerns about the implications of errors in the projected future emissions from anthropogenic fires, commitment to improving air quality and visibility in the Columbia River Gorge, and changes to Class I area boundaries since 1977. Specific areas of concern are discussed in more detail below.

Our Regional Forester, Mary Wagner, also provided an executive summary of these comments to the Director of WDOE, Mr. Ted Sturdevent. She has requested to have a follow-up telephone call to discuss these concerns.



Mr. Doug Schneider

Issues with Rate of Progress of Restoring Natural Conditions

As shown in Table 9-1, none of the federal Class I areas in Washington are expected to restore visibility to natural conditions within the 54 years remaining (i.e., by 2064), as envisioned by the authors of the Regional Haze Rule. The projected dates of restoring visibility to natural conditions vary by Class I area, and range from an additional 64 to 698 years or more. In fact, for two Class I areas, Ecology's goal is to allow visibility to get worse, thus preventing a projection of how many years will be required to achieve the goal of the Regional Haze Rule. In our judgment, this is not reasonable.

The expected slow rate of progress stems from a number of underlying issues associated with several of the core elements of the plan including: emission inventories, source apportionment, reasonable progress goals, long-term strategy, and BART determinations. Each of these is described in more detail below. In light of the projected slow rate of restoring visibility to natural conditions, we urge Ecology to revisit each of these core elements with a mind-set to greatly improve upon the projected rate of progress.

Emission Inventories

Tables 6-1 – 6-7. What are the sources of the large increases in point and area source emissions projected for 2018? An understanding of these sources will help in developing a more aggressive rate of restoring visibility to natural conditions.

Source Apportionment

The source apportionments could be improved by considering additional analyses and tools not presented in the RH SIP. For example, consider the Alpine Lakes Wilderness. A review of the composition and timing of the worst-case days at this site reveal that the period from April through October has the highest contribution from sulfates (reference – Views 2.0 Website). Using the WRAP TSS emissions and apportionment tool, WA point sources are the largest contributing source category to sulfates at this site, especially during July and August. In fact, the point source contribution to sulfates at Alpine Lakes actually increases between 2002 and 2018. These increases offset some of the reductions from mobile sources. Ecology should revisit the source apportionment analyses in more detail, and refine its strategy toward achieving the goals of the regional haze rule.

Additionally, a pollutant-specific source apportionment for each Class I area should be re-evaluated in light of the projected rate of progress, again with the purposeful intention of improving the rate of progress. For example, consider the information presented in Figure 9-2 for North Cascades National Park and Glacier Peak Wilderness. The projected light extinction from organic mass and sulfate exceed the uniform rate of progress. Thus considerable effort should be placed on more-specifically identifying sources contributing to organic mass and sulfates. These are discussed in a very general sense in Chapter 8 and 9, but could also be combined with the information contained in the BART analyses shown in Chapter 11. Figure 8-13 illustrates that Washington point sources and Canadian point and area sources are the largest contributing sources to sulfate. Tables 11-5, 11-6, 11-8, and 11-11, reveal that the four facilities which were subject to BART, for which Ecology is proposing no additional controls, all contribute to haze in these Class I areas. Given the leeway Ecology has in determining BART, we advocate that the BART analyses should be revisited; this time with a more assertive consideration of cost-benefits. What about the other point sources in Washington? What is Ecology's plan to reduce impacts from these contributing sources? At a minimum, Ecology should be more specific in identifying these contributing sources. What about the Canadian sources? Does Ecology have any intention of engaging with the Canadian government about the impact from these sources? If so, please elaborate. This same line of investigation should be pursued for each pollutant for each Class I area.

Mr. Doug Schneider

Reasonable Progress Goals

The Regional Haze rule states (*40 CFR 51.308 (d) 1(ii)*) that if the State established a reasonable progress goal that provides for a slower rate of improvement in visibility than the rate that would be needed to attain natural conditions by 2064, the State must demonstrate, based upon the four-factor analysis (i.e., considering cost of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of the source) that the rate of progress for the implementation plan to attain natural conditions is (1) not reasonable and (2) that the progress goal adopted by the State is reasonable.

Table 9-1 presents a summary of Ecology's proposed Reasonable Progress Goals (RPGs) for Washington's Class I areas. In all cases the RPGs are slower than the Uniform Glide Path 2018 target. For each Class I area, Ecology acknowledges that there are potential controls applicable to sources in Washington. However, further controls are "not reasonable at this time" (page 9-5) because Ecology needs to investigate the applicability of specific controls to sources in the state, determining the visibility benefits of implementing controls, and putting controls into regulatory form. However, this rationale is different from the four factors: cost of compliance, time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and remaining useful life of the source. As such, Ecology has not provided sufficient basis for why it will take so long to attain natural conditions. This is a key missing component of Ecology's RH SIP.

Another related issue pertains to Ecology's RPGs for North Cascades National Park and Glacier Peak Wilderness. Table 9-1 shows that the 2000 – 2004 baseline conditions at these two Class I areas is 16.01 deciviews (dv). Yet, the 2018 RPG is 17.24 dv. Or put another way, Ecology is proposing a RGP in which visibility gets worse, not better. This clearly is not allowed by the rule. Section 51.308 (d) (1) of the Regional Haze rule states that "...the reasonable progress goals must provide for an improvement in visibility for the most impaired days over the period of the implementation plan and ensure no degradation in visibility for the least impaired days over the same period." Ecology needs to develop an RPG for these Class I areas consistent with the rule.

In our judgment, the RPGs set for the Class I areas in Washington are not reasonable as they allow for degradation of visibility at two Class I areas, and estimate that it will take 323 to 698 years to achieve natural conditions at two additional Class I areas, and the remaining four Class I areas will take 64-87 years to restore visibility to natural conditions.

The WRAP report contained in Appendix F is not specific to sources in Washington, and thus is too general to provide sufficient information to develop RPGs. Ecology needs to take the next steps in conducting a four factor analysis for sources specific to Washington State. Table 11-2 identifies numerous point sources which Washington identified as not being eligible for BART. A four factor analysis should be conducted for these sources. In August 2007, the Forest Service provided Ecology with a screening analysis identifying candidate sources for conducting a four factor analysis as part of its RFP analysis. These sources were: Kimberly-Clark Corp., Everett; Ash Grove Cement, E. Marginal; Boise White Paper Co., Wallula; Nippon Paper Industries, Port Angeles; Saint Gobain Containers, Seattle. Please provide a four factor analysis for these sources.

In addition to the issues associated with its four factor analysis, the RPG portion of the SIP has some discrepancies which need to be addressed. Page 9-3 & others. "Statewide emissions of SO₂ are projected

Mr. Doug Schneider

to decline almost 40% between the 2000-2004 baseline period and 2018. This decline results from a 29% reduction in point source emissions and a 95% reduction in on-road and off-road mobile source emissions.” Yet in Chapter 8, PSAT point source impacts from sulfate are projected to increase or remain roughly the same at WA class I areas. Where are the 40% reductions coming from such that they don’t benefit WA Class I’s?

Additionally, Figure 9-2 shows an expected increase in most impaired day sulfate impacts at NOCA1, yet PSAT results in Figure 8-13 show no real change in net contributions. How is that possible? Figure 9-2 also shows an expected increase in extinction from organics. Figure 8-21 suggests that a significant fraction of the increase results from WA area sources. If true, then it is not clear that Ecology has demonstrated that it is doing its share to meet RPG’s at NOCA1.

Page 9-8 implies that backyard burning is responsible for area source increases of primary organic carbon as follows:

“Area sources are responsible for most of the rest of the primary organic aerosols emissions. The projected human-caused increase in 2018 emissions basically reflects increases in emissions from residential wood combustion, backyard burning, and construction activities. The increases reflect population increase.”

However residential wood combustion growth should be minimal due to *“Emission standards for woodstoves and fireplaces that are more restrictive than current EPA standards ”* (p 10-9) and, *“Construction activities have not been identified as contributing to visibility impairment in mandatory Class I Areas in Washington. History shows the impacts occur close to the construction site”* (p 10-8).

So are we left to conclude that backyard burning is responsible for area source increases? Please clarify. Also, please explain why these area sources have not been included in the RP plans.

In addition, to the primary pollutants contributing to haze, there may be situations in which other reactive chemical species, such as ammonia, may be limiting the formation of haze. As such, the reductions in primary pollutants such as SO_x and NO_x may not be effective in reducing haze. Please identify locations and times when, and if, ammonia is a limiting pollutant in the formation of haze, and if so, how Ecology plans to address limiting ammonia emissions.

Long Term Strategy

Section 51.308(d)(3) states that the long-term strategy must include enforceable emission limitations, compliance schedule, and other measures as necessary to achieve the reasonable progress goals established by States having mandatory Class I Federal areas. As Washington’s RGP’s should be revised, so should the Long Term Strategy, accordingly.

Per Tables 8-4 and 8-5, emission sources in Washington contribute to visibility impairment in the several of the Class I areas of Oregon, Idaho, and Montana, both in the baseline and the 2018 scenario. However, there is no further discussion or specifics of Ecology’s plan to reduce WA source emissions accordingly. Without these specifics identified, Washington is hindering the ability of surrounding states to meet their RPGs. Please rectify this situation by (1) demonstrating that Washington has included all measures necessary to obtain its share of the emission reductions needed to meet the progress goals for these other Class I areas and (2) specify the enforceable emission limitations, compliance schedules, and other measures necessary to achieve RPGs in Class I areas in surrounding states.

Mr. Doug Schneider

We also encourage Ecology to consider sustainability and energy conservation as part of its Long-Term Strategy for all pollutants.

New Source Review

We routinely request that states add a linkage between their PSD process and their RH SIP. We note that the PSD program can be particularly effective with respect to the goal of no degradation of the clearest days. To avoid potential confusion, at facilities in which federally enforceable emission reductions are created as part of the State RH SIP, please clarify that these emission reductions could not also be used as credits in the determination of net emission increase as used in determining applicability of PSD.

BART Modeling

There are two major issues with Ecology's BART determinations: (1) they are not as effective as they could be in helping to restore visibility to natural conditions by 2064, and (2) Ecology inappropriately exempted the Alcoa Aluminum plant in Malaga, WA from BART.

Ecology's BART determinations should be re-evaluated in light of the projected slow rate of progress in restoring visibility to natural conditions. While states have some latitude in determining BART, Ecology's dismissal of several viable control options due to costs, have clearly limited the rate of progress. Ecology should focus on the facilities which contribute to visibility impairment, especially at the Class I areas in which visibility is not expected to improve or improve very slowly. Consider the pollutants which contribute impairment and the leeway Ecology has in determining BART. When considering the cost and benefits, we ask Ecology to take a more determined approach in selecting BART which will allow for a faster rate of improvement than currently projected.

BART Exemption Modeling

The Forest Service disagrees with Ecology's determination to exempt the Alcoa Aluminum plant in Malaga from BART, based upon procedural and technical issues. We note the BART modeling protocol identifies procedures to conduct modeling for BART-eligible sources in Washington State. The modeling protocol was the result of a cooperative effort among Idaho Department of Environmental Quality, Oregon Department of Environmental Quality, and Washington Department of Ecology, and in consultation with the U.S. Fish and Wildlife Service, the National Park Service, the U.S. Forest Service, and the U.S. Environmental Protection Agency. The protocol adopts the BART Guideline and addresses both the BART exemption modeling as well as the BART determination modeling. Collaboration on the protocol and meteorological data sets helps to ensure modeling consistency. In implementing the protocol, the Alcoa aluminum plant in Malaga, WA was found to be subject to BART. However, Ecology circumvented the protocol by allowing use of a method not specified in the protocol, which resulted in the exemption of this source from BART. This "refinement" remains the subject of technical debate in the modeling community. The Forest Service considers this violation of the modeling protocol equivalent to a "breach of contract", as the modeling protocol is an agreement. As such, any changes made must be approved by all parties.

In May of 2008, the Forest Service requested that Ecology postpone its determination of BART applicability to this source until after the EPA-State-Local Modelers meeting to be held in June 2008 in Denver, CO at which time EPA and Ecology would be presenting their analyses of the use of incorporating fine grid resolution into CALMET and the CALPUFF modeling system (Email from Rick Graw to Jeff Johnston). On May 27, 2008, Ecology denied the request of the Forest Service. However, when this issue was brought to the attention of the U.S. EPA Region 10, EPA's Regional Meteorologist Herman Wong informed Ecology's Modeler –Clint Bowman that the technical approach accepted by

Mr. Doug Schneider

Ecology was unacceptable (Email from Herman Wong to Clint Bowman, July 8, 2008). We also note that in Herman Wong's email, he makes reference to emails from Bret Anderson (EPA OAQPS) to Clint Bowman, also communicating EPA's rationale for rejecting the use of 0.5 km CALMET grid resolution settings.

We also note that U.S. EPA Region 10 reiterated that it would not accept the BART analysis for this facility unless it provided adequate technical justification that was reviewed and accepted by all agencies involved in producing the protocol (Email from Rob Wilson to Jeff Johnson, June 8, 2009).

Given that Alpine Lakes Wilderness is the Class I area most impacted by this facility, and the area is not projected to improve visibility at the URP, and the primary emissions from this facility are SO₂, and that sulfates are one of the key contributors to worst-case visibility, we believe BART is not only applicable, it is likely necessary to help Alpine Lakes Wilderness achieve natural conditions by 2064. Ecology needs to prepare a BART determination for this facility. If Ecology continues to refuse to do so, we request that the US EPA prepare the BART determination.

Unrealistic Expectations of Emissions from Fire

The projected 30% decrease in anthropogenic fire emissions is unrealistic, and may hamper the ability of Ecology to make substantial progress in meeting the goals of the Regional Haze Rule. Ecology needs to clarify which emission sources are included in this source category. We understand, after talking with the WRAP staff, its contractors, and members of the Fire Emissions Joint Forum, that anthropogenic fire emissions include agricultural burning, and certain types of controlled silvicultural burning. Please clarify the sources that are included in the "anthropogenic" and "natural fire" categories. A cross-walk between the source category definitions used in the WA RH SIP and the WRAP reference materials would be helpful.

We note that many of the emission reduction techniques that account for the modeled emission reductions were already in use in 2002. As such, the baseline emissions are likely too high because they did not account for the controls being implemented at the time. The SIP, as written, gives a false sense that these emissions will be decreasing again in the future. The total amount of land burned by the Forest Service, east of the Cascades is expected to increase in the coming years, and burning west of the Cascades is expected to remain stable. The Forest Service is willing to work with Ecology to provide better estimates of expected changes in emissions resulting from restorative and maintenance burning activities.

The 2018 projections for emissions from natural and anthropogenic fire in Table 6-1 through 6-8 show that smoke is remaining constant for natural fires and decreasing for anthropogenic fire. Yet, on page 10-4 of the draft RH SIP, Ecology states that more smoke can be expected due to increases in prescribed burning and natural fires. Please explain.

We are concerned that inaccuracies with respect to projected reductions in emissions from fire in this SIP may be misinterpreted by individuals or local agencies, and may unnecessarily restrict the Forest Service from accomplishing its mission, thus potentially increasing the threat of wildfires. Please correct this inaccuracy in the plan or at least clarify the appropriate use of this information.

Columbia River Gorge National Scenic Area

As Washington is developing its SIP for Regional Haze, the Columbia River Gorge National Scenic Area (CRGNSA) is also developing its strategy to protect and enhance air quality in the CRGNSA. Just as the State of Oregon has a key role in this strategy, so does Washington. The Department of Ecology and local Clean Air Agencies have the ability to control Washington emissions which contribute to the air

Mr. Doug Schneider

pollution of the CRGNSA. Numerous studies on the causes of air pollution and haze in the CRGNSA have identified emissions originating in both Oregon and Washington, and beyond as contributing sources to these issues. The same haze-causing pollution which affects federal Class I areas in Washington also affects visibility and air quality in other areas of the state. As such, the Regional Haze Rule affords Washington an opportunity to leverage this rule to improve air quality state-wide. In the past, Ecology has committed resources to studying the causes of air pollution in the CRGNSA. We now ask that Ecology continue its commitment towards protecting and enhancing air quality and visibility in the CRGNSA by adding language to the Regional Haze SIP, similar to the language included in Section 1.6.2 of the Oregon draft Regional Haze SIP, to maximize the benefits of its plan and share in a common commitment to protecting the visibility and air quality in the CRGNSA.

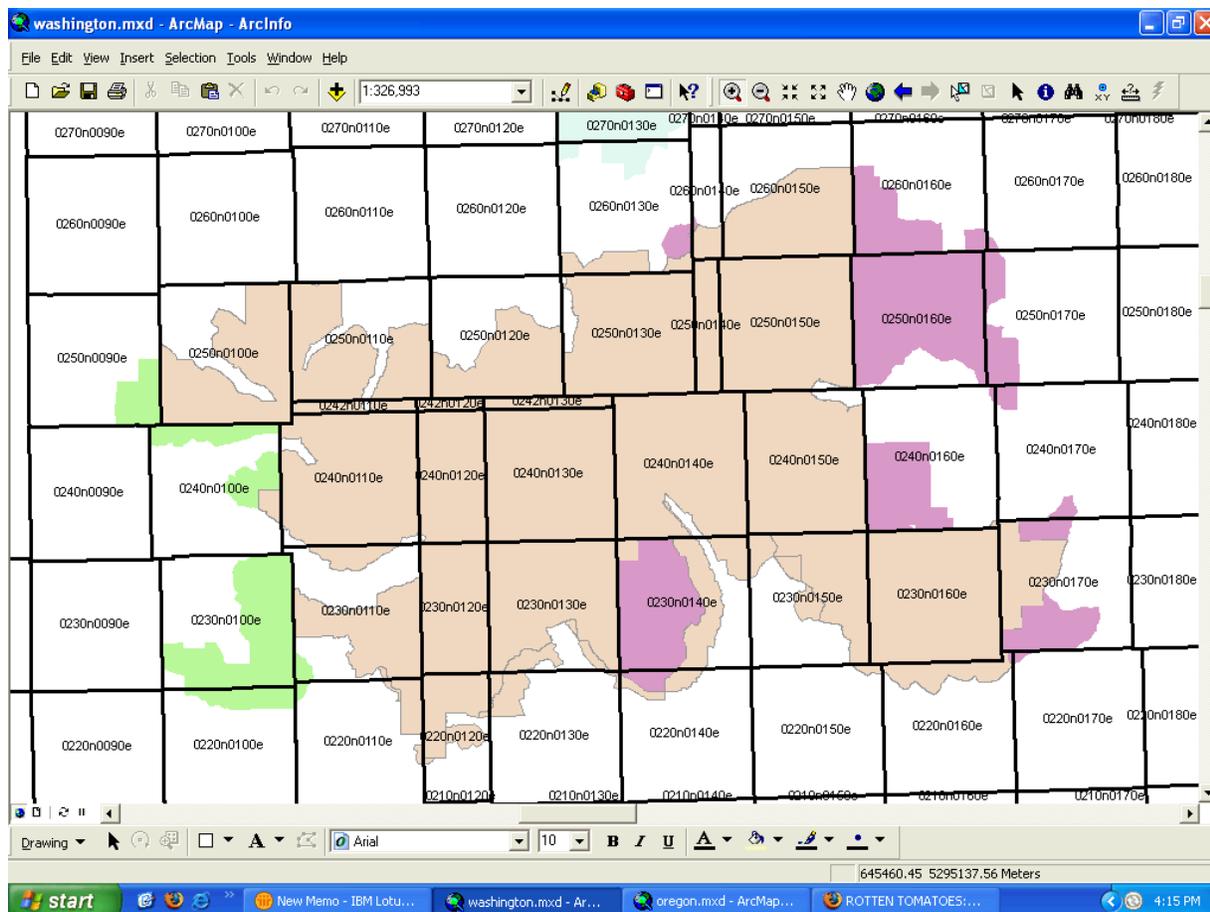
Correction to Class I Area Boundaries

The final sentence in the paragraph below, taken from Chapter 4: Monitoring Visibility in Washington's Mandatory Class I Areas, is incorrect. Expansions are also Class I. Please correct this language.

Table 4-1 provides information on the size and FLM of each of the mandatory Class I Areas. The acreages may not match the current acreages of the national park or wilderness area for reasons including more accurate surveys or expansion of the area. While boundary line adjustments or expanded acreages are technically not part of the mandatory Class I Area defined in federal regulations, any improvements to visibility will impact these areas too.

The map you are using for Alpine Lakes wilderness is incorrect (Figure 4-4). Below is the correct extent of the wilderness. We will be happy to assist you in getting the correct boundaries for this wilderness.

Mr. Doug Schneider



We understand that based upon our May 18, 2010 consultation, that some of these issues may be addressed in a revision to the draft SIP. We request that Ecology revise its RPGs to restore visibility to all Class I areas within Washington at much faster time frames than currently proposed. We appreciate your thoughtful consideration of our comments.

Sincerely,

/s/ *Richard L. Graw*

RICHARD L. GRAW
Air Resource Management Specialist

Enclosures



Herman
Wong/R10/USEPA/US

07/08/2008 06:42 AM

To clint@ecy.wa.gov

cc rdha461@ecy.wa.gov, dsch461@ecy.wa.gov,
anew461@ECY.WA.GOV, rgraw@fs.fed.us,
Elizabeth_Waddell@nps.gov, tim_allen@fws.gov,

bcc

Subject CALPUFF Fine Grid Modeling for BART Eligible
Sources: Alcoa and Intalco

Clint:

The National Park Service (NPS) and the Forest Service (FS) have been discussing with me your acceptance of the BART exemption modeling results using a grid spacing of 500-meters (m) for the Alcoa stationary source. They have provided me with a copy of Douglas Schneider's email of 27 May 2008 with attachment. The Office of Air Quality Planning and Standards (OAQPS) emailed me a copy of your POWERPOINT presentation from the June, 2008 modeler's workshop and your "On the Characteristics and Acceptability of Small Grid Spacing in CALPUFF" dated 01 May 2008. The latter indicates that Alcoa and Intalco were modeled at fine grids of 500-m and 1000-m, respectively. In addition, Bret Anderson copied me on his replies to your email correspondence related to the use of fine grids. I also discussed this issue with Tim Allen at the Fish & Wildlife Service (FWS) separately although I don't think their Class I areas are being affected.

After reviewing the materials and hearing the NPS and FS describe their concerns, I believe that Ecology and Alcoa's consultant, TRC, have not technically justified the use of a fine grid to exempt Alcoa out of BART. In the past, we have been trusting of other parties in accepting new procedures, techniques or options without complete documentation and a thorough analysis. This past practice is inconsistent with our guidance and policies and continues to plague us as it applies to the use of the CALPUFF Modeling System. Nevertheless, R10 is willing to allow the use of new procedures, techniques or options as long as an acceptability demonstration is made in accordance with applicable guidance and is fully vetted by peers. This was emphasized over and over again at the 2007 and 2008 modeler's workshops and by me.

Our primary concerns with the use of a fine grid in CALPUFF for a BART exemption (and determination) modeling analysis are as follows:

1. On an important procedural matter, Idaho, Oregon, Washington, NPS, FS, FWS and R10 agreed to consult each other if a BART eligible source or a state deviates from the three state common modeling protocol. Only the three Federal Land Managers (FLMs) and OAQPS were informed of your plan and eventual decision.
2. Your presentation and analyses were based on the use of the non guideline version of CALPUFF and inadequate meteorology. An evaluation of the observed vs measured wind fields was impossible because of instrument problems, and there were a significant amount of calm conditions (up to 50%) in the datasets. A 4-kilometer (km), 1-km and 500-m modeled impact comparison analysis was also conducted. However, the comparisons were based on the use of CALPUFF versions 5.711 and 6.112. Both of these versions are not recommended by EPA.
3. In discussing the modeling with Bret Anderson, he agreed that the model is predicting lower numbers and was concerned that we may have discovered another

problem. From the workshop and conversations, we need to:

- (a) understand the logic for the derivation of the large sigma-z values (the code), and
- (b) confirm that the large sigma-z values are biasing towards underpredictions.

4. At the 2007 modeler's workshop at Virginia Beach, OAQPS spent at least two days detailing the coding errors and technical issues contained in the non guideline version of CALMET. (At that time, I believe it was Version 5.8 before it became the recommended version.) CALMET Version 6.211 is a non guideline model and likely contains the same errors and technical issues as the non guideline version of 5.8. Hence, I don't recommend Version 6.211 to be used outside of what we agreed to in the common modeling protocol.

5. The CALPUFF modeling system has never been evaluated or tested against tracer gas studies/experiments using a fine grid. As a minimum, Ecology and TRC should have submitted a protocol to R10 for acceptance to evaluate and test the sensitivity using a fine grid resolution in CALPUFF Version 5.8.

6. In Ecology's email, I disagree that time and policy should drive the justification. It is more important to EPA and the FLMs to use good science that is defensible from a technical perspective! While the MM5/WRF-to-CALPUFF program is not ready, the recommended CALPUFF Version 5.8 is available.

It is my technical judgment that the use of a fine grid with the non guideline CALPUFF Version 6 is unacceptable. Ecology and TRC should consider conducting additional evaluations, tests and analyses using Version 5.8 or accept the results that followed the original common protocol.

Again, I would request that Ecology route technical issues through me and not go directly to OAQPS.

Clint, please give me a call if you want to chat about our judgments.

Herman Wong
Atmospheric Scientist
Regional Office Modeling Contact
USEPA Region 10
Office of Environmental Assessment (OEA-095)
1200 Sixth Ave, Suite 900
Seattle, WA 98101-1128
206.553.4858
Email: wong.herman@epa.gov

Wilson.Rob@epamail.epa.gov

06/08/2009 11:21 AM

To jefj461@ECY.WA.GOV

Cc Islam.Mahbubul@epamail.epa.gov, tim_allen@fws.gov, john_notar@nps.gov,

Elizabeth_Waddell@nps.gov, rgraw@fs.fed.us, Wong.Herman@epamail.epa.gov

bcc

Subject BART modeling for Intalco

History:

This message has been forwarded.

Jeff,

It has come to my attention that Ecology has accepted a BART modeling analysis for Intalco. The analysis apparently employed the CALPUFF model using a grid spacing of less than four kilometers, and is therefore inconsistent with the BART modeling protocol that was negotiated and agreed to with EPA R10, Washington, Oregon, Idaho, and the Federal Land Managers.

Last summer Herman Wong of my staff provided clear guidance to Ecology (attached below) that this type of modeling application is not acceptable unless adequate technical justification is provided. Furthermore, you and I discussed this matter in a meeting on July 28, 2008, that Ecology managers initiated with EPA managers. You agreed that your staff needed to provide assurance that the modeling analyses performed for BART were consistent with the protocol, or, if they deviated from the protocol, they were accompanied by adequate technical justification. The technical

justification required review and acceptance by all of the agencies involved in producing the protocol. To date we have not received adequate technical justification.

Rob

Executive Correspondence

Log No: 7692

Gov Log No: None

Date Assigned: 06/19/2010

Date Due: 07/05/2010

Date Completed:

Constituent: Wagner, Mary - USDA Regional Forester

Subject: Washington State's Regional Haze Plan

Assigned to: Clark, Stuart A

Organization: AQ

Coordinate With: None Required

Signature Required: DIRECTOR

CC (To be noted on letter)
None

Contact Person	In	Out
Weiler, Tami K		

Phone Log (If Appropriate)

Comments:
HARDCOPY GIVEN TO TED 6/21/10



United States
Department of
Agriculture

Forest
Service

Pacific
Northwest
Region

333 SW First Avenue (97204)
PO Box 3623
Portland, OR 97208-3623
503-808-2468

File Code: 2580

Date: June 15, 2010

Mr. Ted Sturdevant
Director
Washington Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

RECEIVED

JUN 17 2010

DEPARTMENT OF ECOLOGY
OFFICE OF DIRECTOR

Dear Mr. Sturdevant:

Re: Washington's Regional Haze Plan

Over the last eight years, the Forest Service and the Department of Ecology have developed a strong working relationship addressing forest roads and water quality. The results have been great programs towards mutual goals. I am writing this letter in a similar spirit of meeting mutual expectations for environmental quality. As the federal land manager responsible for protecting visibility in five of the eight federal Class I wilderness areas in the State of Washington, the USDA Forest Service has a vested interest in the outcome of Washington's Regional Haze (RH) State Implementation Plan (SIP). As such, we have been actively involved in numerous meetings with the Washington Department of Ecology (Ecology) during the development of this plan. While these discussions have been informative, we have often been dissatisfied and frustrated over key components of the plan. The Plan will not restore visibility in any of the federal Class I areas in Washington to natural conditions by 2064, as envisioned by the authors of the Regional Haze Rule. The projected dates of restoring visibility to natural conditions vary by Class I area; ranging from an additional 64 to 698 years or more. For two Class I areas, the Plan allows visibility to degrade by 2018, thus preventing a projection of how many years will be required to achieve the goal of the Regional Haze Rule. The Forest Service is not satisfied with these projected outcomes. As our agencies work closely on a number of issues, we desire a relationship of mutual consideration and respect for concerns. We believe it is important for a plan to be developed which assures that visibility will be restored to natural conditions within a much shorter time frame than currently proposed.

Our concerns on specific issues of the plan include: unexplained increases in the emission inventories of point and area sources, non-specific source apportionment, and a lack of an adequate four-factor analysis in developing Reasonable Progress Goals (RPGs). Consequently, the long-term strategy is not specific enough to lay the foundation for reducing visibility impairment in a timely manner. Given the slow rate of progress and projected worsening of conditions, we believe the Best Available Retrofit Technology (BART) determinations should be revisited and more aggressive emission reductions selected. We have provided numerous comments on individual BART assessments. We ask Ecology to revisit our comments in light of establishing faster rates of progress.

We have an additional concern about emission inventories that estimate a 30% decline in anthropogenic fire within the planning period. To restore fire adapted ecosystems on the east side of the Cascades, we anticipate increased levels of prescribed fire as a means of reducing the risk of large wildfires. We are concerned about the implications of this projection, particularly, with how it may be misinterpreted by local air agencies. Please correct this inaccuracy in the plan, or at a minimum add clarifying language into the appropriate use of this information.

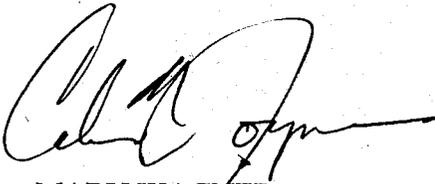


Washington's RH SIP will also have benefits beyond reducing haze in federal Class I areas. These haze-causing pollutants also participate in the formation of some criteria air pollutants (e.g., PM_{2.5}, NO₂, SO₂, and O₃), all of which are potentially dangerous to human health, and cause haze. Given the multiple benefits associated with emission reduction accomplished through this rule, we request that Ecology give consideration to these issues when making emission reduction decisions. Because Ecology has the ability to regulate air pollution from sources within Washington State, we would like to see this plan include language recognizing Ecology's ability and commitment to protecting and enhancing visibility of the Columbia River Gorge National Scenic Area, and using the Regional Haze SIP as a vehicle towards this end, similar to what Oregon has put in its Regional Haze SIP.

My staff has submitted the Forest Service technical comments on the Regional Haze SIP to Mr. Doug Schneider, Ecology's Regional Haze Coordinator, in a separate letter.

I would like to schedule a follow-up telephone call with you to discuss these concerns. I will have my secretary schedule a time which is convenient for the both of us.

Sincerely,



for MARY WAGNER
Regional Forester