ATTACHMENT 1

Detailed WSPA Comments on Specific Sections of the 2nd Draft SIP

Suggested modifications to the language in the 2nd draft SIP are provided in detail below. Passages in <u>blue, underlined font</u> represent requested additions. Passages in ~~red, strikethrough font~~ represent recommended removals.

Executive Summary, Page xiii

WSPA recommends the following additional language:

- *Two mandatory Class 1 federal areas (Goat Rocks Wilderness and Mount Adams Wilderness) are forecast to meet natural conditions (EPA's visibility goals) by 2028.*
- *Emissions from transportation are the largest source of air pollution that causes poor visibility. We have started rulemaking to reduce transportation emissions:*
  - *Chapter 173-423 WAC, Clean Vehicles Program, which adopts California's more protective vehicle emission standards;*
  - *Chapter 173-424 WAC, Clean Fuels Program Rule, which reduces pollution from vehicle fuels.*
- *Emissions from petroleum refineries <u>in northwest Washington have some potential to contribute to</u> ~~cause poor~~ visibility <u>impairment</u>. We plan to identify <u>reasonable</u> emission controls, if any, to reduce emissions from refineries. After we have identified and scheduled installation of <u>any reasonable</u> controls, we will amend this plan.*

Chapter 7. Source Selection and Four-factor Analysis, Page 166

The 2nd Draft SIP identified potential reasonable controls at a multitude of sources and is prioritizing a subset of those sources that constitute a vast majority of the visibility benefit during this implementation period. Ecology's first priority is to identify reasonable controls at the refinery facilities. WSPA recommends the following language changes:

> *Ecology identified potential reasonable controls at ~~a multitude of~~ <u>the stationary</u> sources <u>identified by the Q/d screening process</u> and is prioritizing a subset of those sources ~~that constitute a vast majority of the visibility benefit~~ during this implementation period. Ecology's first priority is to identify reasonable controls at the refinery facilities.*

> *<u>Ecology focused first on refineries based on a</u> ~~A~~ number of factors ~~supports the selection of refineries as the first priority~~. These factors include:*
> - *All ~~Four~~ of the five refinery facilities are located in the Puget <u>Sound</u> trough, west of several Class 1 Areas. ~~Their~~ <u>Four of them are located near each other resulting in</u> cumulative regional haze causing emissions <u>which have the potential to</u> influence the same Class 1 Areas.*
> - ~~Predominant winds direct the emissions from the refineries toward several Class 1 Areas.~~
> - *<u>Preliminary estimates indicate</u> the refineries' <u>have the</u> potential <u>for</u> emission reductions of <u>as much as</u> 4,200 tons per year NO_X.~~account for the vast amount of potential emission reductions~~.*

Chapter 7. Source Selection and Four-factor Analysis, Page 184

WSPA recommends the following language changes:

> *The refineries in Washington are over 40 years old and the facilities have maintained the ~~majority of the~~ equipment ~~in a manner that has not required updating emission controls to current~~ <u>to ensure compliance with applicable local, state, and federal</u> standards.*

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Chapter 7. Source Selection and Four-factor Analysis, Page 185

WSPA suggest that Table 7.6 and the text related to Table 7.6 be deleted from the 2nd Draft SIP as follows:

Table 7-6 shows how Washington refineries compare nationally based on NOx emissions per barrel of production capacity. The data is from the 2014 EPA emission data (2014 NEI Data, 2014) of 88 refineries located in nine states: AK, CA CO, IL, LA, MT, TX, WA, and WY. Table 7-6 only shows a subset of the 88 refineries and all Washington refineries are shown. The table is sorted from highest to lowest NOx emissions divided by production capacity. Washington refineries represent four of the top five facilities in the nine states in NOx emissions per 1,000 barrels produced per day. Three Washington refineries emit more oxides of nitrogen per barrel of production capacity than per year of any other refinery in the U.S.

Table 7-6: Washington refineries annual emissions and production capacity

State	Company	NOX tpy 2014	Ranking NOx tpy	1,000 BPD	NOx tpy/ 1,000 BPD
WA	Tesoro Northwest Company	1,918	3	119	16.12
WA	Shell Puget Sound Refinery	1,230	16	145	8.48
WA	BP Cherry Point Refinery	1,882	4	242	7.78
LA	Equilon Enterprises LLC - Shell Oil Products US Norco Refinery	1,626	11	225	7.23
WA	Phillips 66 Ferndale Refinery	723	31	105	6.89
IL	Exxon Mobil Oil Corp	1,386	13	238	5.83
LA	Phillips 66 Co - Alliance Refinery	1,432	12	253	5.66
IL	ConocoPhillips Co	1,863	6	334	5.58
LA	Citgo Petroleum Corp - Lake Charles Manufacturing Complex	2,197	1	418	5.25
TX	Beaumont Refinery	1,868	5	365	5.12
LA	ExxonMobil Refinery & Supply Co - Baton Rouge Refinery	1,944	2	540	3.60
TX	Deer Park Plant	1,702	9	500	3.40
TX	Baytown Refinery	1,828	8	560	3.26
WA	U.S. Oil & Refining Co	133	68	41	3.24
TX	Port Arthur Refinery	1,858	7	603	3.08
TX	Galveston Bay Refinery	1,692	10	571	2.96
LA	Marathon Petroleum Co LP - LA Refining Division - Garyville Refinery	1,379	14	564	2.45

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Alternatively, WSPA requests that the 2nd draft SIP provide substantiation for the relevance of Table 7-6, as currently presented, to the regional haze program and the role this data has in the determinations made as part of the 2nd draft SIP.

Chapter 7. Source Selection and Four-factor Analysis

WSPA recommends that edits be applied to passages in the individual refinery sections of the draft SIP discussing the refineries providing limited supporting data. In addition, WSPA requests that Ecology update the language referring to "the costs from the EPA Control Cost Manual" to reflect that these costs are Ecology's preliminary estimates. The individual instances of these passages are included below.

Page 189
Ecology reviewed the following equipment using the EPA Control Cost Manual:

Reformer Heaters
~~BP supplied a table with limited supporting data.~~

Table 7-8 shows the costs for the retrofit that BP supplied compared to the costs from ~~the EPA Control Cost Manual (EPA, 2021)~~ Ecology's preliminary assessment using the EPA Control Cost Manual. Ecology determined that a more detailed RACT analysis is justified to refine costs.

Page 190
Crude Heater
~~BP supplied a table with limited supporting data.~~ Table 7-9 shows the costs for the retrofit that BP supplied compared to the costs from ~~the EPA Control Cost Manual (EPA, 2021)~~ Ecology's preliminary assessment using the EPA Control Cost Manual. Ecology determined that a more detailed RACT analysis is justified to refine costs.

…

Two Reforming Furnace #1 (H2 PLANT)
~~BP supplied a table with limited supporting data.~~ Table 7-10 shows the costs for the retrofit that BP supplied compared to the costs from ~~the EPA Control Cost Manual (EPA, 2021)~~ Ecology's preliminary assessment using the EPA Control Cost Manual. Ecology determined that a more detailed RACT analysis is justified to refine costs.

Page 192
Crude heater 1F-1
~~Phillips 66 supplied a table with limited supporting data.~~ Table 7-12 shows the costs for the retrofit that Phillips 66 supplied compared to the costs from ~~the EPA Control Cost Manual~~ Ecology's preliminary assessment using the EPA Control Cost Manual. Ecology determined that a more detailed reasonableness is justified to refine costs.

Page 195
BOILER #1 ERIE CITY--31G-F1
~~Shell's FFA supplied a table with limited supporting data.~~ Table 7-15 shows the costs for the retrofit that Shell supplied compared to the costs from ~~the EPA Control Cost Manual~~ Ecology's preliminary assessment using the EPA Control Cost Manual. Ecology determined that a more detailed reasonableness analysis is justified to provide more credible and defensible costs.
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CRU #2
~~Shell supplied a table with limited supporting data.~~ Table 7-17 shows the costs for the retrofit that Shell supplied compared to the costs from ~~the EPA Control Cost Manual~~ Ecology's preliminary assessment using the EPA Control Cost Manual. Ecology determined that a more detailed reasonableness analysis is justified to provide more credible and defensible costs.

Page 199
FCCU
~~MPC supplied a table with limited supporting data.~~ Table 7-20 shows the costs for the retrofit that MPC supplied compared to the costs from ~~the EPA Control Cost Manual~~ Ecology's preliminary assessment using the EPA Control Cost Manual. Ecology determined that a more detailed reasonableness analysis is justified to provide more credible and defensible costs.

Page 202
HEATER H11
~~The facility supplied a table with the limited supporting data.~~

Chapter 7. Source Selection and Four-factor Analysis, Page 203

In reviewing the source selection and four factor analyses, Ecology did not provide any evidence that any sources were identified or examined for potential cost-effective controls beyond those selected for the four-factor analysis. Because these evaluations are not represented in the 2ⁿᵈ draft SIP, WSPA recommends the following language changes to accompany the updates identified previously regarding Ecology's priorities for the 2ⁿᵈ draft SIP:

Ecology has preliminarily identified potential cost-effective controls at ~~a multitude of~~ the stationary sources identified by the Q/d process ~~sources~~ and is choosing to perform an in-depth analysis of the feasibility of controls and, if determined to be reasonable, to require installation of reasonable controls at ~~only~~ a subset of those sources.[21]

Ecology is prioritizing the sequence of implementation of reasonable controls. ~~The first priority is to identify reasonable controls at the refinery facilities.~~

Ecology focused first on refineries based on a ~~A~~ number of factors ~~supports the selection of refineries as the first priority~~. These factors include:

- *All ~~Four~~ of the five refinery facilities are located in the Puget Sound trough, west of several Class 1 Areas. ~~Their~~ Four of them are located near each other resulting in cumulative regional haze causing emissions which have the potential to influence the same Class 1 Areas.*
- ~~*Predominant winds direct the emissions from the refineries toward several Class 1 Areas.*~~
- *Preliminary estimates indicate the refineries' have the potential for emission reductions of as much as 4,200 tons per year NO_x. ~~account for the vast amount of potential emission reductions~~.*

ATTACHMENT 2

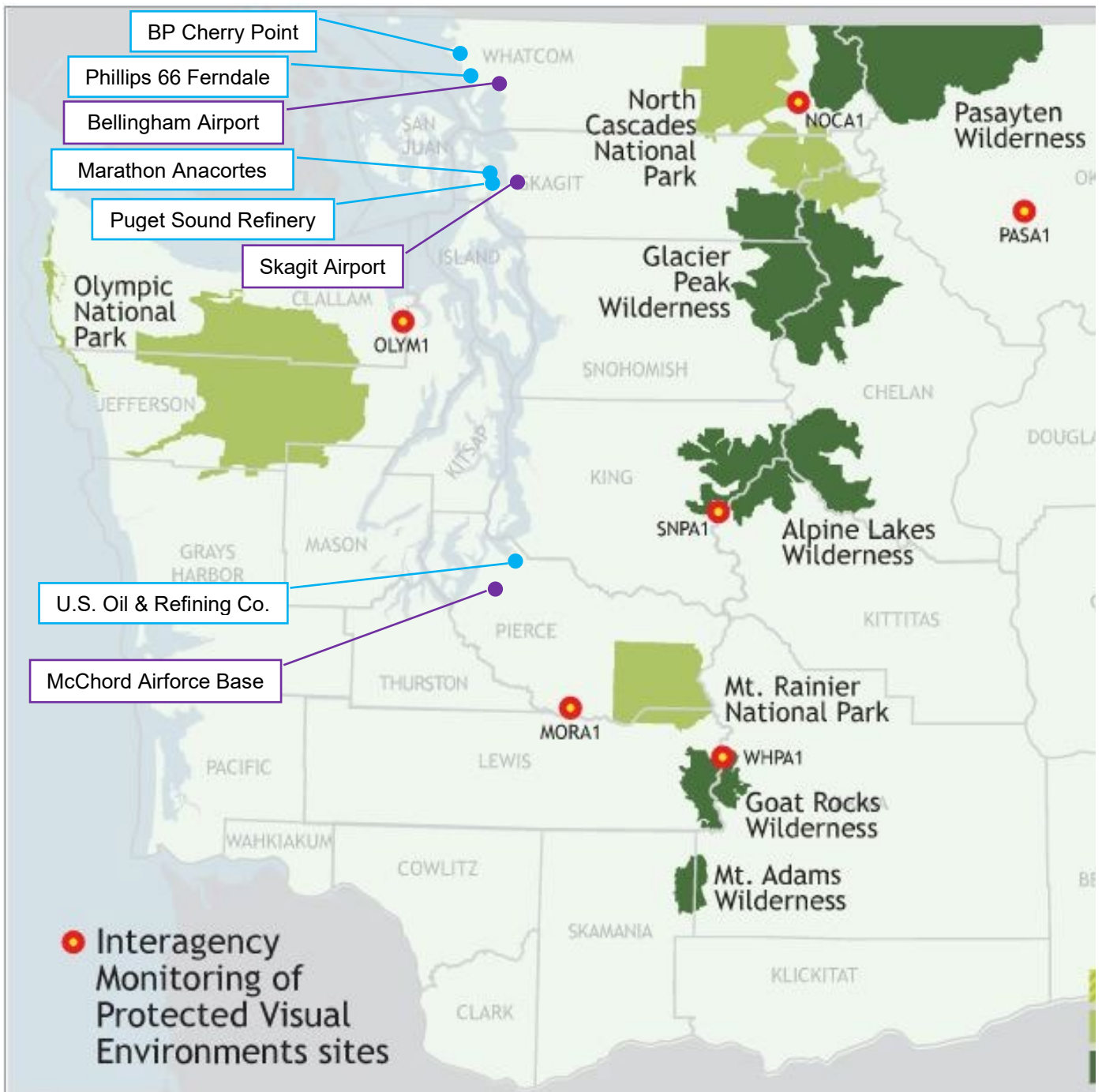**Map of Washington State Class 1 Areas with Wind Roses**

Figure 2-1. Washington's Class 1 Areas and IMPROVE Monitoring Network Sites (Ecology, 2021, annotations added)