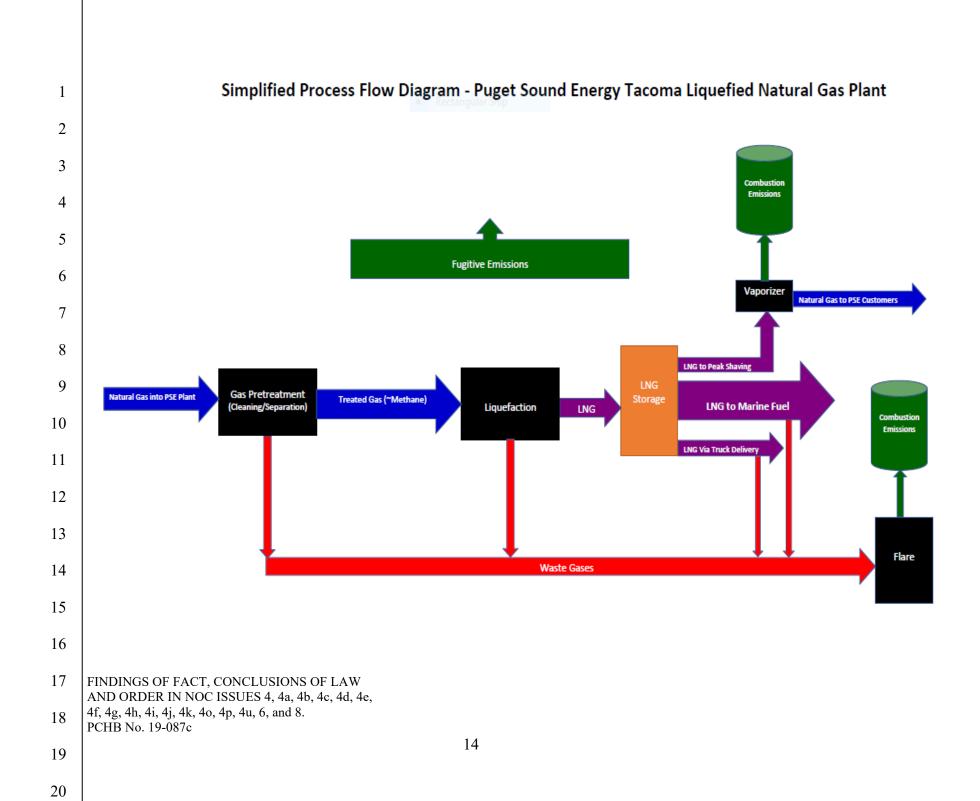
Excerpt from Findings of Fact, Conclusion of Law, and Order on NOC Issues 4, 4a, 4b, 4c, 4d, 4e, 4f, 4g, 4h, 4i, 4j, 4k, 4o, 4p, 4u, 6, and 8 (Excerpt)

1	POLLUTION CONTROL HEARINGS BOARD STATE OF WASHINGTON	
2 3 4 5 6 7	ADVOCATES FOR A CLEANER TACOMA, SIERRA CLUB, WASHINGTON ENVIRONMENTAL COUNCIL, WASHINGTON PHYSICIANS FOR SOCIAL RESPONSIBILITY, STAND.EARTH, and THE PUYALLUP TRIBE OF INDIANS, Appellants,	PCHB No. 19-087c FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER ON NOC ISSUES 4, 4a, 4b, 4c, 4d, 4e, 4f, 4g, 4h, 4i, 4j, 4k, 4o, 4p, 4u, 6, and 8.
, 8 9 10	v. PUGET SOUND CLEAN AIR AGENCY and PUGET SOUND ENERGY, Respondents.	
 11 12 13 14 15 16 17 18 19 20 	 I. INTRODUCTION This case concerns the Puyallup Tribe of Indians' (Tribe) and Advocates for a Cleaner Tacoma, Sierra Club, Washington Environmental Council, Washington Physicians for Social Responsibility, and Stand.Earth (collectively, ACT's) appeals of Order of Approval for Notice of Construction (NOC) No. 11386 (Permit) issued to Puget Sound Energy (PSE) by Puget Sound Clean Air Agency (PSCAA) to construct the Tacoma Liquefied Natural Gas facility (TLNG) and related equipment. The Appeals challenged both the Permit and the State Environmental Policy Act (SEPA) supplemental environmental impact statement supporting the Permit. The administrative record in this case reflects the protracted discovery and voluminous 	
21	motions filed. The ten-day hearing on the conso	

FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER IN NOC ISSUES 4, 4a, 4b, 4c, 4d, 4e, 4f, 4g, 4h, 4i, 4j, 4k, 4o, 4p, 4u, 6, and 8. PCHB No. 19-087c



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16. 2 The primary emission units at TLNG are the enclosed ground flare and the vaporizer. The flare would produce more emissions because the vaporizer is limited to a maximum of 10 3 days per year of operation. Ex. RA-68, p. 34; Ottersburg Testimony at 2216. The flare has four 4 5 burners to combust waste gases generated by the pretreatment, liquification, and fuel transmitting processes. Ex. RA-15. PSE contracted with LFG to design and build the flare. PSE provided 6 specifications for flare height, waste gas composition, and a desired destruction rate efficiency 7 for waste gases from which LFG designed and built the flare. Stobart Testimony at 1992-93. 8 9 17. 10 CB&I used UniSim, a commercially available process simulator, to design TLNG. When a simulation is run in UniSim, it produces an output file or report. In this case, a heat and 11 material balance (or heat and mass balance) from a UniSim TLNG simulation was produced 12 13 containing both inputs and outputs. Stobart Testimony at 2060-62. Relevant here, UniSim was 14 used to develop bracketing cases of operating scenarios at TLNG that affect the type and amount of waste gases going to the flare. But certain processes are omitted from the UniSim model here. 15 For example, UniSim did not address the fate of BTEX³ coming into TLNG through feed gas 16 and did not address other sulfur compounds except hydrogen sulfide. Id. at 2062. 17 18 19

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³ BTEX refer to the chemicals benzene, toluene, ethylbenzene and xylene.

modeling were representative, and Appellants did not meet their burden of proving that the 1 2 modeling was flawed on this basis. 120. 3 Appellants also present additional bases to support their claim of underestimated criteria 4 5 pollutant emissions that were specific to PM_{2.5}, nitrogen dioxide, and sulfur dioxide. Each criteria pollutant is discussed in turn. 6 1. PM_{2.5} 7 121. 8 9 The parties agree that new air dispersion modeling with the correct wind direction for PM_{2.5} shows that TLNG's PM_{2.5} emissions of 1.3 ug/m³ exceed WAC 173-400-113, Table 4a's 10 threshold of 1.2 ug/m3. Ex. RA-143. But as stated in ¶¶ 113-115, PSCAA's and Dr. Libicki's 11 background analysis did not show that the PM_{2.5} NAAQS were exceeded. Appellants only point 12 13 out that PM_{2.5} emissions were still underestimated by using AP-42 emissions factors because they only represent an average range of emission rates. 14 122. 15 16 Landau used AP-42 emission factors from the EPA to calculate PM_{2.5} emissions (among others) from gas combustion in the flare and vaporizer, as well as in its air dispersion modeling. 17 Ex. PSE-374, p. 27 (Libicki Pre-filed Testimony). AP-42 contains EPA's compilation of 18 emission factors for carbon monoxide, nitrogen oxides, and VOCs that are used by industry 19 based on emissions test data from various industrial facilities and sources. They are continually 20 21 FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER IN NOC ISSUES 4, 4a, 4b, 4c, 4d, 4e,

AND ORDER IN NOC ISSUES 4, 4a, 4b, 4c, 4d, 4e 4f, 4g, 4h, 4i, 4j, 4k, 4o, 4p, 4u, 6, and 8. PCHB No. 19-087c