



Northwest Innovation Works - Kalama

ADP 16-3204

Public Comments and Comment Response

June 7, 2017

**Southwest Clean Air Agency
Public Comment and Comment Response**

**Northwest Innovation Works Kalama
ADP 16-3204 / ADP Application CO-964**

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Summary

Northwest Innovation Works Kalama (NWIWK) submitted ADP Application CO-964 to the Southwest Clean Air Agency (SWCAA) on March 1, 2016. ADP Application CO-964 proposes to construct and operate a methanol production facility on approximately 90 acres at the Port of Kalama's Northport site. The proposed facility is referred to as the Kalama Manufacturing and Marine Export Facility (KMMEF).

SWCAA made a preliminary determination to issue ADP 16-3204 in response to ADP Application CO-964 on November 21, 2016. Due to significant public interest, SWCAA provided both a public comment period and a public hearing for the preliminary determination. This document contains a summary of public comment and testimony and SWCAA's response to identified comment topics.

Public Comment Period

The public comment period for the preliminary determination to issue ADP 16-3204 began on November 11, 2016 and ended on February 6, 2017. During the comment period a total of 1,035 public comments were received via letter, email, personal delivery, and oral testimony. The original comments are on file at SWCAA's business office. Public comments received during the comment period are organized by commenter and comment topic in the tables below. The first table contains a list of commenters with a cross reference to related comment topics. The second table contains a list of comment topics with SWCAA's corresponding comment response.

Public Hearing

A public hearing for the preliminary determination to issue ADP 16-3204 was held on January 4, 2017 at the Cowlitz PUD auditorium in Longview, Washington. At the hearing 69 citizens gave testimony regarding the proposed facility. A transcript of the oral testimony is on file at SWCAA's business office. Testimony given at the public hearing has been included in the public comment summary tables below.

Table of Commenters		
Commenter ID	Commenter Affiliation	Comment
1-7, 9-15, 17-21, 1026, 1031	Citizen	1
8	Tidewater Transportation and Terminals	1
16	Citizen	1, 3
22-81	Citizen	2
82-87, 1024, 1028, 1029	Citizen	4
88, 1025	Citizen	4, 5
89	Citizen	5
90, 1030, 1033	Citizen	3
91-93	Citizen	3, 4
94, 102	Citizen	3, 5
95-101	Citizen	3, 4, 5
103	Citizen	3, 4, 6
104	Citizen	3, 4, 9
105	Citizen	3, 4, 11
106	Citizen	3, 4, 5, 6
107	Citizen	3, 4, 5, 7
108-109	Citizen	3, 4, 5, 10
110-111	Citizen	3, 4, 5, 11
112	Citizen	3, 4, 5, 12
113-114	Citizen	3, 4, 5, 6, 7
115	Citizen	3, 4, 5, 6, 9
116	Citizen	3, 4, 6, 11
117	Citizen	3, 4, 11, 14
118	Citizen	3, 4, 8, 9
119	Citizen	3, 4, 5, 6, 10
120	Citizen	3, 4, 5, 7, 10
121-123	Citizen	3, 4, 5, 6, 7, 10
124	Physicians for Social Responsibility	3, 4, 5, 7, 8, 9, 11, 15, 18
125	Citizen	3, 5, 6, 7, 10
126	Citizen	3, 5, 13
127	Citizen	3, 8, 14, 19
128	Citizen	4, 5, 9
129-130	Citizen	4, 6
131	Citizen	4, 6, 7
132	Citizen	4, 5, 9, 12
133-134	Citizen	4, 9

Table of Commenters		
Commenter ID	Commenter Affiliation	Comment
135	Citizen	4, 16
136	Citizen	5, 6, 7
137	Citizen	5, 9, 11, 17
138-139	Citizen	5, 15
140	Citizen	6, 9, 16
141	Citizen	3, 4, 6, 9, 11, 15, 17
142	Citizen	3, 4, 5, 8, 9, 11, 15, 20
143	Citizen	8, 11, 14
144	Citizen	8, 15
145	Citizen	9, 11, 17
146	Citizen	12, 16, 18
147	Citizen	16
148	Citizen	1, 8, 9, 11, 12, 14, 15, 18
149	New Progressive Alliance	3, 4, 5, 6, 9, 11, 19, 21, 22
150	Citizen	23, 24, 25, 26, 27
151	Citizen	3, 4, 11, 12, 20, 23, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54
152	Columbia Riverkeeper	4, 13, 16, 55, 56, 57, 58
153	Citizen	3, 5, 13
154-1023	Citizen	3, 4
1027	Citizen	4, 7
1032	Citizen	4, 5, 22
1034	Citizen	59
1035	Northwest Citizen Science Initiative	60

Table of Comments			
Category/Topic	Comment ID	Comment	Response
General Support	1	General support for approval of the proposed project.	SWCAA thanks you for your comment.
General Opposition	2	General opposition to approval of the proposed project.	SWCAA thanks you for your comment.
Toxic Air Pollutant Emissions	3	Potential emissions of hazardous and toxic air pollutants from the proposed project are up to 53 tons per year. These emissions pose a threat to public health.	<p>Potential toxic air pollutant (TAP) emissions from the proposed project are calculated to be 44.11 tpy. Some of the TAP emissions (8.63 tpy) are also classified as hazardous air pollutants (HAP). The citation of 53 tpy double-counts HAP emissions.</p> <p>The proposed project is required to implement Best Available Control Technology (BACT) for toxic air emissions and will comply with applicable federal Maximum Achievable Control Technology (MACT) regulations. For toxic air pollutants (TAPs), State regulations establish pollutant specific Acceptable Source Impact Levels (ASILs), which are designed to maintain such levels of air quality as will protect human health and safety. Potential toxic air pollutant emissions from the proposed project have been demonstrated to comply with applicable ASILs.</p>
Greenhouse Gas Emissions	4	Potential emissions of GHG/CO ₂ from the proposed project are over one million tons per year. These emissions are inconsistent with state climate change policy and will contribute to global warming.	<p>The impact of potential greenhouse gas emissions is discussed in the Environmental Impact Statement for the project. The proposed project will be subject to the requirements of Washington's Clean Air Rule (WAC 173-442), which is administered by the Department of Ecology and requires progressive reduction of greenhouse gas emissions.</p> <p>Greenhouse gas emissions from minor stationary sources are not subject to New Source Review under the Clean Air Act. Therefore, greenhouse gas emissions are not within the scope of SWCAA's review and are not addressed in the draft air discharge permit. Federal regulations previously required major source permitting for greenhouse gas emitting sources in accordance with EPA's "Tailoring Rule". The Supreme Court subsequently ruled that greenhouse gas emissions were not a conventional pollutant subject to new source review and invalidated the "Tailoring Rule" (<i>Utility Air Regulatory Group v. EPA, June 23, 2014</i>).</p>

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Category/Topic	Comment ID	Comment	Response
Criteria Pollutant Emissions	5	Potential emissions of fine particulate from the proposed project are up to 62 tons per year. These emissions pose a threat to public health and will degrade the air quality in Kalama.	<p>State and Federal regulations have established Ambient Air Quality Standards (AAQS) for fine particulate matter (PM₁₀, PM_{2.5}). These standards are designed to protect human health with an adequate margin of safety, including sensitive populations such as children, the elderly, and individuals with existing heart and lung disease. These standards are based on contemporary scientific evidence and are periodically reviewed by the Clean Air Scientific Advisory Committee and EPA to ensure they are protective.</p> <p>Potential fine particulate matter emissions from the proposed project have been demonstrated with air dispersion modeling to comply with the AAQS for fine particulate matter.</p>
Natural Gas Consumption	6	The proposed project will be the largest natural gas consumer in the State of Washington, consuming more gas than all other industry combined.	Conservation and/or allocation of available energy resources is an important issue, but the impact of natural gas consumption by the proposed project is not within the scope of SWCAA's New Source Review authority and are not addressed in the draft air discharge permit. Natural gas consumption is discussed in the Environmental Impact Statement for the proposed project.
Community Health	7	40% of Kalama residents are part of vulnerable populations (<18 yrs, >65 yrs) according to the 2010 census. Emissions from the proposed project will directly harm this population.	<p>State and Federal regulations have established Ambient Air Quality Standards (AAQS) for selected criteria pollutants. The AAQS are designed to protect human health with an adequate margin of safety, including sensitive populations such as children, the elderly, and individuals with existing heart and lung disease. These standards are based on contemporary scientific evidence and are periodically reviewed by the Clean Air Scientific Advisory Committee and EPA to ensure they are protective.</p> <p>State regulations establish pollutant specific Acceptable Source Impact Levels (ASILs) for toxic air pollutants (TAPs), which are designed to maintain such levels of air quality as will protect human health and safety.</p> <p>Potential air emissions from the proposed project have been demonstrated with air dispersion modeling to comply with applicable ambient air quality standards.</p>

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Ship Traffic	8	The proposed permit does not address impacts from ship traffic on the Columbia River associated with the proposed project.	New Source Review under the Clean Air Act is limited to air emissions from stationary sources. Ship traffic constitutes a mobile source of emissions, not subject to stationary source regulations. Ship engine emissions are regulated separately by the EPA. Therefore, ship traffic is not within the scope of SWCAA's review and is not addressed in the draft air discharge permit. The impact of ship traffic associated with the proposed project is discussed in the Environmental Impact Statement for the proposed project.
Natural Gas Pipeline	9	The proposed permit does not address impacts from the construction and/or operation of natural gas pipeline infrastructure in support of the proposed project.	New Source Review under the Clean Air Act is limited to air emissions from stationary sources. Potential air emissions from the proposed project are addressed in the draft air discharge permit. Offsite natural gas pipeline facilities (compressor stations, knockout stations, etc.) will be subject to separate review if they qualify as a stationary source and perform installations or modifications that cause significant emission increases. General impacts of pipeline construction and operation are discussed in the Environmental Impact Statement for the proposed project.
Largest Source of Air Pollution	10	The proposed project will become the largest source of air pollution in Kalama.	New Source Review regulations under the Clean Air Act do not prohibit the installation of a new stationary source based solely on its size. New stationary sources are required to employ Best Available Control Technology (BACT) for control of air emissions, meet category specific emission standards, and must demonstrate compliance with applicable ambient standards for criteria and toxic air pollutants. Projects that comply with the above requirements are approved for installation. SWCAA's review of the proposed project indicates it will comply with applicable air quality standards.
Frack Gas	11	Natural gas used by the proposed project will come from 'fracking', which has detrimental environmental effects. Approval of the proposed project will cause an increase in 'fracking' activity.	New Source Review under the Clean Air Act is limited to air emissions from affected stationary sources. The scope of SWCAA's review authority is therefore limited to the proposed project, which is a methanol plant in Kalama. 'Fracking' and gas field development happen outside of SWCAA's jurisdiction and are regulated by EPA and other agencies.

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Cooling Tower Plume	12	The vapor plume from the cooling tower for the proposed project will degrade the area and cause traffic hazards on nearby roadways.	<p>Water vapor and visible plumes emitted from the proposed cooling tower are not considered air pollution and are not addressed in the draft air discharge permit. The potential for localized fogging, icing, and/or visibility impacts due to vapor plumes is discussed in the Environmental Impact Statement for the proposed project. This issue is largely a land use consideration.</p> <p><i>"Results of the plume fogging analysis for the CR Alternative suggest limited patterns of plume fogging to the north-northwest of the cooling towers, extending out to a distance of 500 meters. This projection is consistent with the wind patterns in the area. Areas of the fogging associated with the CR Alternative would not be expected to pose a driving hazard on nearby roadways or freeways. The modeling predicted zero hours of icing due to the plumes." (FEIS, Section 4.4.1.2) "The frequency of visible plumes would be lower with the ULE Alternative." (FEIS, Section 1.2.2.2)</i></p>

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Criteria Pollutant Emissions	13	Potential criteria pollutant emissions from the proposed project are underestimated when compared to other similar sources. (methanol plant in Louisiana, power generation plant in Oregon)	<p>Direct comparisons between facilities built at different times in different jurisdictions can be misleading because facility designs and emission standards vary. In Washington, all new stationary sources are required to implement Best Available Control Technology (BACT), which changes over time as new technologies and emission controls are developed. Similar sources permitted at different times can have significantly different emission profiles. Generally, newer facilities have lower emission rates/limits. Potential criteria pollutant emission calculations for the proposed project are based on proposed levels of operation and manufacturer's performance specifications. Emission limits in the air discharge permit are consistent with BACT and incorporate state of the art emission controls.</p> <p>The methanol production process at the proposed project employs a significantly different design than the referenced methanol plant in Louisiana. The proposed process design requires less supplemental fuel and is more energy efficient than the facility in Louisiana so its emission profile is significantly lower. Likewise, power generation units for the proposed project will be equipped with more effective emission controls than the referenced power generation plant in Oregon so the corresponding emission profiles will be lower. The air discharge permit incorporates regulatory limits to ensure that emissions do not exceed allowable levels. If the facility exceeds the permitted limits it will be subject to enforcement and corrective action.</p>
Earthquake Risk	14	The proposed project is located in an area likely to be impacted by earthquakes. Earthquake damage could cause dangerous emissions from the facility and/or associated gas pipelines.	The potential impact of earthquakes on the proposed project and associated infrastructure is an important consideration in siting this facility. However, the impact of earthquakes is not within the scope of SWCAA's New Source Review authority and is not addressed in the draft air discharge permit. The potential impact of earthquakes is discussed in the Environmental Impact Statement for the proposed project. (<i>see FEIS, Section 3.3.2.1</i>)

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DPM Emissions	15	<p>Potential DPM emissions from the proposed project pose a threat to public health. Total estimated emissions exceed the applicable ASIL. A 2nd Tier TAP review should be conducted.</p>	<p>Diesel particulate matter (DPM) is not a regulated pollutant under the toxics rule adopted by SWCAA. Pursuant to SWCAA 400-076, SWCAA implements the requirements of WAC 173-460 as in effect on August 21, 1998, which does not regulate DPM as a TAP. However, particulate matter as a whole, both PM₁₀ and PM_{2.5}, are regulated as criteria pollutants for which there are state and federal ambient air quality standards that are protective of public health. SWCAA's permitting program prohibits a facility (stationary source) from emitting quantities of particulate matter that will cause or contribute to an exceedance of these standards.</p> <p>DPM is a regulated toxic air pollutant (TAP) in the 2009 version of WAC 173-460, which is implemented by the Department of Ecology. Similar to the 1998 version, this rule only regulates emissions from stationary sources and does not include mobile sources (e.g., trains, trucks, cars and ships) or non-road engines (e.g., construction equipment). One of the reasons for this is the Acceptable Source Impact Level (ASIL) is established based on 24 hr exposure to emissions over a person's lifetime. Mobile and non-road emissions are transitory and not reflective of constant 24 hour exposure, which results in an overestimate of potential exposure.</p> <p>The applicant included an analysis in their application that included emissions from stationary and mobile sources to quantify all emissions and ultimately compare those ambient impacts to the stationary source DPM ASIL established under the 2009 version of WAC 173-460. This was done for informational purposes and is not an appropriate methodology for determining compliance with the ASIL in WAC 173-460 (either 1998 or 2009 version). Only stationary source emissions are to be considered in an ASIL analysis. DPM emissions from proposed stationary sources meet the ASIL so a 2nd Tier TAP analysis would not be required for this project even under the 2009 version of WAC 173-460.</p>

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Permit Compliance	16a	<p><u>General.</u> Monitoring, testing, and reporting requirements in the proposed permit are not practically enforceable and are inadequate to ensure permit compliance. Without enforceable PTE limits, the facility cannot be considered a minor source. Specific examples are included below.</p>	<p><u>General.</u> The monitoring, testing and reporting requirements contained in the proposed permit are practically enforceable and sufficient to assure compliance with applicable requirements. The proposed permit contains enforceable limits on potential to emit (PTE) similar in structure to other permits issued by SWCAA that have been subjected to judicial and regulatory scrutiny and successfully enforced.</p>
Permit Compliance	16b	<p><u>Process Flare Monitoring.</u> There is no direct emission monitoring of flare emissions, only the use of AP-42 emission factors. EPA's canned emission factors may or may not be an accurate approximation of emissions from the flare. Monitoring of inlet concentrations cannot be reliably converted in outlet emissions. Flare emissions should be monitored using a real time method such as pFTIR or LIDAR.</p>	<p><u>Process Flare Monitoring.</u> Current EPA guidance for process flares at refineries and chemical plants contains no provisions for real time monitoring. EPA relies upon a combination of flare design, good operating practices and parametric monitoring to assure flare compliance. Process flares are required to meet the requirements set forth in 40 CFR 63.11(b), operate in accordance with a flare management plan, and monitor operating parameters such as inlet gas flow, inlet heat input and pilot light operation. The flare monitoring provisions in the proposed permit are consistent with this approach. A survey of permit conditions for similar facilities did not find any application of real time monitoring.</p> <p>Although required by applicable federal regulations, the proposed permit does not directly cite the design requirements of 40 CFR 63.11(b). A direct citation to 40 CFR 63.11(b) will be added to the permit.</p>
Permit Compliance	16c	<p><u>Process Flare Reporting.</u> VOC and CO limits for the process flare are not reported in a manner conducive to enforcement. The yearly PTE limit exceeds EPA's guidance for a short-term limit. The permit does not specify whether the yearly limit applies to the preceding 12-month period or on a calendar basis.</p>	<p><u>Process Flare Reporting.</u> Permit requirements for the process flare contain both short term (lb/hr) and long term (tpy) emission limits for VOC and CO. This is consistent with EPA guidance. The permit requires the facility to maintain monthly records of process flare operation. The facility is required to report operational records and air emissions on a quarterly basis. Consistent with EPA guidance, annual emission limits for the process flare are applied on a rolling 12-month basis. However, as noted in the comment, the proposed permit language is not specific. Applicable permit language will be revised to specify rolling 12-month applicability.</p>

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Permit Compliance	16d	<u>PGU Testing.</u> VOC emission limit is not enforceable because emission testing is only required once every five years. EPA has ruled this is insufficient to demonstrate compliance.	<u>PGU Testing.</u> SWCAA conducted a survey of similar facilities recently permitted in the State of Washington. Permits for these facilities generally establish a two tier schedule for VOC testing. Annual testing is required for the first 3-4 years of operation. After the initial period, testing frequency is reduced to once every five years if compliance with applicable emission limits is maintained. The proposed permit will be revised to incorporate this approach.
Permit Compliance	16e	<u>Storage Tank Emissions.</u> VOC emission limits are not enforceable because the permit does not require testing for temperature, vapor pressure, and vapor molecular weight which are required to calculate tank emissions using the specified methods.	<u>Storage Tank Emissions.</u> Primary emissions from the storage tanks are emitted from the storage tank wet scrubber and are monitored separately. Only fugitive emissions from the storage tanks are calculated using the referenced information. Storage tanks at the proposed facility contain methanol and aqueous ammonia. The vapor pressure and molecular weight of both materials is a known value. Material in the storage tanks is stored at ambient temperature, which is available from multiple sources. Therefore, direct measurement of the referenced information is not necessary to accurately calculate emissions.
Permit Compliance	16f	<u>Combustion Source Testing.</u> PM emission limits for all fired sources are not enforceable because the permit does not require ongoing testing of PM emissions, which could change due to equipment age and/or maintenance.	<u>Combustion Source Testing.</u> SWCAA conducted a survey of similar facilities recently permitted in the State of Washington. Permits for these facilities generally establish a two tier schedule for PM testing. Annual testing is required for the first 3-4 years of operation. After the initial period, testing frequency is reduced to once every five years if compliance with applicable emission limits is maintained. The propose permit will be revised to incorporate this approach.
Permit Compliance	16g	<u>HAP Emission Limits.</u> The permit does not have limits on HAP emissions from the facility and does not require actual emissions monitoring for HAPs. The lack of limits and monitoring means the permit is not sufficient to demonstrate HAP emissions will not exceed 10 tpy single/25 tpy combined or assure that health impacts will not be significant.	<u>HAP Emission Limits.</u> HAP emissions from the proposed facility are emitted by two general activities - fuel combustion and methanol storage and handling. HAP emissions from fuel combustion are calculated based on the maximum physical capacity of the proposed equipment in accordance with EPA guidance for calculating potential to emit (PTE). HAP emissions from methanol storage and handling operations are limited by unit specific emission limits for "VOC (methanol)". These limits are sufficient to demonstrate that HAP emissions will not exceed the 10 tpy single/25 tpy combined major HAP source threshold.

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Eminent Domain	17	The use of eminent domain to build pipelines associated with the proposed project is wrong.	<p>The use of eminent domain to construct new pipeline infrastructure is not within the scope of SWCAA's New Source Review authority and is not addressed in the draft air discharge permit. The use of eminent domain to construct new pipeline infrastructure is discussed in the Environmental Impact Statement for the proposed project and is a land use consideration.</p> <p><i>"NWIW does not have any authority to use eminent domain. Northwest Pipeline, LLC has limited rights to use eminent domain to acquire pipeline right of way as authorized by the Natural Gas Act (15 U.S.C. §§ 717 to 717Z), which specifically provides that a natural gas company has the power of eminent domain to construct natural gas pipelines and facilities when they receive a certificate of public convenience and necessity from the Federal Energy Regulatory Commission (FERC) and cannot acquire by the necessary right-of-way by contract." (FEIS, Section 17.20 p.17-125)</i></p> <p><i>"An application to approve the construction and operation of the proposed pipeline pursuant to Section 7(c) of the Natural Gas Act and required FERC regulations was submitted by Northwest to FERC on October 27, 2014 (Docket No. CP15-8-000). The proposed pipeline would be constructed in accordance with U.S. Department of Transportation and FERC regulations. On 11 April 2016, FERC issued a certificate of public convenience and necessity authorizing Northwest to construct and operate the proposed pipeline." (FEIS, Section 1.1.6.1)</i></p>
Fire/Explosion Risk	18	The proposed project will create a serious risk of explosions and/or fires, which could cause toxic airborne releases.	<p>Evaluation of explosion and/or fire risk during operation of the proposed project is not within the scope of SWCAA's New Source Review authority and is not addressed in the draft air discharge permit. Explosion and/or fire risk is discussed in the Environmental Impact Statement for the proposed project and is a land use consideration. (see FEIS, Sections 1.1.1, 1.1.5, 1.2.6.2)</p>
Operating Experience	19	NWIWK is a new startup company, and its owners have never operated a methanol plant before.	<p>SWCAA regulates the air emissions from emission sources to ensure they meet applicable air quality standards. SWCAA does not have authority over company ownership.</p>

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Offsite Electrical Generation	20	The proposed permit does not address impacts from the generation of offsite electricity used in support of the proposed project.	Offsite electricity purchased by the proposed project will be generated by a variety of sources, both traditional and renewable. The primary supplier is expected to be Cowlitz PUD. Operation of offsite electrical generators is not within the scope of SWCAA's New Source Review authority for the proposed project and associated air emissions are not addressed in the draft air discharge permit. Offsite electrical generators are subject to similar stationary source regulations and permitting requirements when the affected facilities are constructed or modified.
Methanol Toxicity	21	Methanol is flammable and highly toxic to fish and animals. A methanol spill in the Columbia River would deplete oxygen levels and harm fish.	Spill prevention for liquids stored at the proposed project and/or transported on the river is not within the scope of SWCAA's New Source Review authority and is not addressed in the draft air discharge permit. Accidental spills are discussed in the Environmental Impact Statement for the proposed project and are a land use consideration. (<i>see FEIS, Sections 8.3.5, 8.4.1.1, 8.4.3.4</i>)
Water Consumption	22	The proposed project will use ~4 million gallons of water per day for cooling and gas forming. It makes no sense for Kalama to sell off millions of gallons of water when farmers and fishermen are affected by drought restrictions.	Conservation and/or allocation of available water resources is an important issue, but the impact of water consumption by the proposed project is not within the scope of SWCAA's New Source Review authority. Water consumption and potential impact on water resources are discussed in the Environmental Impact Statement for the proposed project and are a land use consideration. (<i>FEIS, Sections 5.5, 6.6.1.2, 15.5.3</i>)
Greenhouse Gas Emissions	23	The ramifications of any company setting its own GHG emission limits are unknown. Allowing a company to set its own GHG emission limits may preclude SWCAA from enforcing future reduction requirements for GHG's. SWCAA should deny NWIWK's request for a facilitywide GHG emission limit under SWCAA 400-091.	The draft air discharge permit establishes a facilitywide emission limit for greenhouse gases. This limit was included at the request of the applicant pursuant to the provisions of SWCAA 400-091. Voluntary emission limits established under SWCAA 400-091 do not prevent SWCAA or the Department of Ecology from implementing applicable air emission standards.

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ZLD Operation	24	The proposed permit does not evaluate the impact of operating the ZLD wastewater process.	SWCAA has reviewed the ZLD process and determined it has negligible air emissions. Impacts of the ZLD wastewater process other than air emissions are not within the scope of SWCAA's New Source Review authority and are not addressed in the draft air discharge permit.
DPM Emissions	25	EPA estimates of background DPM are not accurate enough to use in evaluating the proposed project.	EPA estimates are developed by model simulations using local meteorology, emissions, terrain and the latest science regarding atmospheric chemistry. This is the best data available to the public, industry and regulators. It also serves as the basis for many of the modeling exercises required by state and federal regulations when considering impacts from stationary sources. (<i>see response to Comment 15</i>).
Air Quality Monitoring	26	Due to recent growth in business activity and increases in railroad/truck traffic in Kalama, there is need for an air quality monitoring station near the Port of Kalama.	The Washington Department of Ecology and SWCAA periodically review the need for ambient monitoring in various parts of southwest Washington. Monitoring activities and locations are prioritized and pursued as funding allows.
ULE vs CR Design	27	The proposed permit is based on construction of the 'ULE' process configuration. The 'CR' process configuration has much higher emissions and has not been fully evaluated. If the 'CR' process is selected, a new PSD air permit application needs to be submitted to Ecology.	Pursuant to SWCAA regulations, the draft air discharge permit reflects the information and specifications provided by the applicant in ADP Application CO-964, which specifies use of the 'ULE' process configuration. Any significant change in the submitted information and/or specifications would require a new application and corresponding revision of the air discharge permit. Generally, the new application would be submitted to SWCAA. However, if the changes made the proposed project a major stationary source, the new application would be submitted to Ecology and a PSD air permit would be required.
PGU Emission Limits	28	Separate emission limits should be established for each heat recovery steam generator (HRSG) if the duct burners can be operated independently of the associated combustion turbine. (<i>re: ADP 16-3204, Conditions 2 & 5</i>)	As proposed in ADP Application CO-964, duct burners in the heat recovery steam generators are not capable of operating independently of the associated combustion turbines.

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Process Flare Emission Limits	29	The ratio of annual emission limits to hourly emission limits for the process flare is not consistent from one pollutant to another. Why does the ratio vary? (re: ADP 16-3204, Condition 9)	The process flare operates in response to a number of different process scenarios (startup, shutdown, process upset, emergency shutdown). Hourly emission rates are calculated based on worst case heat input and gas stream composition. Annual emission rates are calculated based on overall heat input and gas composition. The firerate and composition of the gas stream varies from scenario to scenario, which in turn produces variation in the ratio of annual emissions to hourly emissions.
Ammonia Storage Tanks	30	The proposed permit cites ammonia storage tank emissions of 1.38 tpy and overall anhydrous ammonia usage of 684,762 gallons per year. Anhydrous ammonia is an extremely dangerous material. Is there any other emission control method available that uses safer materials? (re: ADP 16-3204, Condition 14)	The proposed project will use aqueous, not anhydrous, ammonia in its SCR emission control systems. (see ADP 16-3204 Technical Support Document, Sections 4.1, 5.p, 8.h) This is a common reagent for SCR emission control systems and is far less dangerous than anhydrous ammonia.
Flare Opacity	31	The proposed permit appears to establish a 0% opacity limit for the process flare. Is any visual emission for greater than 3 minutes in an hour a reportable event? (re: ADP 16-3204, Condition 17)	Yes. Condition 17 of the draft air discharge permit limits visible emissions from all equipment other than the Power Generation Units to 0% opacity. This term includes the process flare.
Process Boilers	32	The proposed permit requires each process boiler to be equipped with a dedicated steam meter. For purposes of emission compliance, the use of dedicated fuel meters and composition analysis would be more appropriate. (re: ADP 16-3204, Condition 29)	Process boiler emissions are calculated based on heat input. Emission compliance requires ongoing monitoring of actual heat input to the boilers. The process boilers have two fuel streams - natural gas and vent streams from the methanol production process. Total heat input for each boiler can be back calculated based on steam production as measured by a dedicated steam meter. Total heat input can also be determined using dedicated fuel/flow meters and composition analysis, but this approach requires continuous calculation of vent stream flow and heat content and the combination of multiple fuel streams rather than a direct reading from a single device. The use of steam meters is simpler and more reliable.

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Methanol Storage Tanks	33	Methanol tanks #13 and #14 do not have floating roofs. Methanol tanks #15-#26 do have floating roofs. Why not require floating roofs for tanks #13 and #14? (re: ADP 16-3204, Condition 49)	Methanol tanks 13 and 14 will store crude methanol transferred from the primary methanol production process. The crude methanol may contain dissolved gases, which can separate from the liquid phase. Accumulation of dissolved gases under a floating roof can make the roof unstable and cause operational and/or safety hazards. Consequently, methanol tanks 13 and 14 are configured as fixed roof tanks rather than internal floating roof tanks.
Final Use of Methanol	34	Methanol produced by the proposed project is intended to be used in the production of plastic in China. The proposed permit should include a requirement prohibiting any other final use of the methanol produced in Kalama.	SWCAA's New Source Review authority is limited to air emissions from operation of a proposed stationary source. The type of product produced by a proposed stationary source and its anticipated end use are not a part of that review.
Ammonia Storage Tanks	35	The proposed ammonia storage tanks have a capacity of 9,000 gallons each. Transport tankers have a capacity of up to 11,500 gallons each. Unless the storage tanks are manifold together, the storage tanks could be overfilled causing a safety issue.	Spill prevention for liquids stored at the proposed project is not within the scope of SWCAA's New Source Review authority and is not addressed in the draft air discharge permit. Accidental spills are discussed in the Environmental Impact Statement for the proposed project. (see FEIS, Sections 8.3.5, 8.4.1.1, 8.4.3.4)
Diesel Fire Pump	36	The proposed permit lists only one fire pump. Per NFPA 59, redundancy is required. Is there a second fire pump? (re: ADP 16-3204, Condition 71)	As proposed in ADP Application CO-964, the facility will be equipped with one diesel engine driven fire pump. There may be electric fire pumps onsite, but they are not subject to SWCAA permitting because they are not a source of onsite air emissions.
Permit Recordkeeping Requirements	37	The monitoring and recordkeeping requirements in Conditions #78 and #80 of the proposed permit are not consistent (lbs vs lb/hr). A lb/hr requirement would be preferred. (re: ADP 16-3204, Conditions 78 & 80)	Conditions #78 and #80 both require the facility to record and maintain hourly average values for specified data elements. However, as noted, the language differs between the two conditions. The language will be revised to be consistent.

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Permit Recordkeeping Requirements	38	The recordkeeping requirements in Condition #89 of the proposed permit should include the vapor tightness certification date for each marine vessel. <i>(re: ADP 16-3204, Condition 89)</i>	The commenter is correct. Pursuant to Condition #60, valid vapor tightness certifications cannot be more than 12 months old. A requirement to document the date of the most recent vapor tightness will be added to Condition #89.
Permit Reporting Requirements	39	Condition #121, item b) of the proposed permit cites " <i>quantity of crude oil</i> ". This is in error. It should reference methanol. <i>(re: ADP 16-3204, Condition 121)</i>	The crude oil citation in Condition #121 was a typographical error. It will be corrected to cite " <i>crude methanol</i> ".
Cooling Tower Heat Exchanger Leaks	40	The cooling water loops at the proposed facility go through many heat exchangers containing process streams. In heat exchangers where the process stream has a higher working pressure, there is a chance for leaks into the cooling water loops. Some means of detecting leakage of process stream components (methanol, CO, ammonia, etc.) is needed to ensure prompt detection and repair of leaks.	The proposed cooling water loop uses a heat exchanger design that minimizes the likelihood of process leaks (<i>fixed-tube sheet configuration</i>) and incorporates continuous testing of cooling water return flows for process gas contamination. Operation and maintenance protocols require prompt shutdown and repair of leaking heat exchangers.
Ozone	41	Chapter 4 of the FEIS discusses 'ozone' in 13 different instances. Is ozone a concern in the air discharge permit?	EPA and the State of Washington have established ambient air quality standards for ozone, but ozone is not directly emitted by most emission sources. Ozone is generally a secondary pollutant, formed by atmospheric chemical reactions of precursor pollutants. Ozone control strategies focus on controlling direct emissions of the precursor pollutants in order to limit subsequent ozone formation. The most prominent precursor pollutants are VOC and NO _x , which are addressed in the proposed air discharge permit.
Natural Gas Desulphurization	42	What happens to acid gas created in the natural gas desulphurization process?	The proposed project will use a zinc oxide catalyst system to remove sulfur from incoming natural gas streams. The desulfurization process is completely enclosed with no direct emissions to the atmosphere. The zinc oxide media is replaced as necessary to maintain effectiveness. Spent zinc oxide media must be either recycled or properly disposed of.

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Methanol Wet Scrubbers	43	The methanol wet scrubbers appear to vent to atmosphere. Why are they not required to vent to a vapor combustion unit?	The methanol wet scrubbers are the designated final control device for the equipment in question. The wet scrubbers are installed in lieu of a vapor combustion unit or other control device.
Process Boilers	44	Is the SCR emission control system for the process boilers required by regulation or is it a proactive measure by NWIWK? What is the difference in emissions from the process boilers with, and without, the SCR system?	<p>The use of an SCR emission control system on the process boilers is required as part of the Best Available Control Technology (BACT) determination for NO_x emissions from those emission units. All new stationary sources in the State of Washington are required to implement BACT at the time of installation.</p> <p>Burners in the proposed process boilers are capable of reliably reducing NO_x emissions to 30 ppmv or less (3% excess oxygen). The proposed SCR emission control systems will reduce NO_x emissions to 4.0 ppmv or less (3% excess oxygen).</p>
Ammonia Storage Tanks	45	What is the configuration of the ammonia storage tanks? Section 4.1 of the Technical Support Document describes the tanks as vertical. Section 5.p of the Technical Support Document describes the tanks as horizontal.	The ammonia storage tanks will have a vertical configuration. The tank description in Section 5.p of the Technical Support Document will be corrected.
Power Generation Units	46	Is the SCR emission control system for the power generation units required by regulation or is it a proactive measure by NWIWK? Do other power generation facilities have similar SCR systems? What is the difference in emissions from the power generation units with, and without, the SCR system?	<p>The use of an SCR emission control system on the power generation units is required as part of the Best Available Control Technology (BACT) determination for NO_x emissions from those emission units. All new stationary sources in the State of Washington are required to implement BACT at the time of installation.</p> <p>Modern combustion technology for natural gas fired turbines is capable of reliably reducing NO_x emissions to levels as low as 10-15 ppmv (15% excess oxygen). The proposed SCR emission control systems will reduce NO_x emissions to 2.5 ppmv (15% excess oxygen) or less.</p>

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Power Generation Units	47	Section 1.2.5.2 of the FEIS describes the total generating capacity of the power generation units as ~101 MW. The proposed permit cites total generating capacity as 121 MW. If the amount of onsite generation has been increased, a Supplemental EIS needs to be considered.	SWCAA's review of the proposed project was based on a total generation capacity of 120 MW as proposed in ADP Application CO-964. Permit conditions and emission limits reflect that level of generation.
Methanol Wet Scrubbers	48	Rated process flows for the methanol storage tanks and marine loading operations are substantially different (2,305 gpm vs 8,476 gpm). Rated discharge rates of the storage tank wet scrubber and the marine loading wet scrubber are the same (21,200 scfm). How can the two scrubbers achieve the same level of control efficiency (99%) with different feed rates?	The proposed wet scrubbers have been designed to accommodate the inlet flows and concentrations produced by the associated facility processes. Equipment design has been guaranteed by the manufacturer to be capable of maintaining the specified control efficiency. The relative ratio of process flow to scrubber flow does not necessarily need to be consistent for the specified control efficiency to be achieved.
Cooling Tower	49	Estimated drift rate from the cooling tower is ~130.2 gpm. Drift from the cooling tower will make a sloppy mess in and around the tower, and accumulated water could impact the river. What can be done to shift process load to an air fin system or refrigeration coolers and reduce the drift rate of the cooling tower?	<p>The use of air fin coolers would substantially increase the consumption of electric power and would be less energy efficient than the proposed cooling towers.</p> <p>Detailed spill prevention, control, and countermeasures, including isolation valves and monitoring requirements will be implemented across the site in accordance with 40 CFR 112. These measures will minimize the potential for impacts to plant or animal resources associated with operational wastewater or stormwater. (FEIS, Section 6.6.1.2)</p> <p>Stormwater from the Facility will be infiltrated. Infiltration facilities would be sized to manage stormwater on site consistent with Cowlitz County and state standards. No stormwater from the Facility will be discharged to surface waters. (FEIS, Section 6.6.1.2)</p>

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Diesel Generators / Fire Pump	50	Fuel for the diesel fired generators and emergency fire pump is kept onsite in storage tanks. Are the emissions from the diesel storage tanks considered de minimus?	Yes, air emissions from diesel storage tanks of the size and configuration proposed for this project are considered de minimus.
Process Flare	51	The process flare pilot light is rated at 0.333 MMBtu/hr. This is a substantial firerate. A reduction or optimization of the pilot light needs to be investigated by NWIWK.	The heat input rating of the process flare pilot was specified by the process flare manufacturer. The size of the process flare pilot is based upon the operational needs of the process flare in anticipated operating scenarios.
Toxic Air Pollutant Emissions	52	There is confusion in the cited WAC 173-460 SQER values for various pollutants. The SQER values cited by SWCAA do not match the corresponding values in WAC 173-460. SWCAA cites an effective date of August 21, 1998 while the newest version of the regulation has an effective date of June 20, 2009. The use of one set of SQER values versus the other makes a difference in which pollutants require modeling. The SQER values need to be verified to ensure consistency.	SWCAA's General Regulations incorporate the provisions of WAC 173-460 as in effect on August 21, 1998. Toxic air pollutant emissions from the proposed project are reviewed using the criteria established in that regulation. Small Quantity Emission Rate (SQER) values may differ from more recent versions of WAC 173-460.
Methanol Wet Scrubbers	53	The proposed permit assumes marine vessels that dock at the Kalama facility are in dedicated service. If the marine vessels are used to transport other products or undergo maintenance/repairs, what provisions are in place to ensure the displaced vapor space does not contain 'mystery' pollutants that will be discharged into the wet scrubber?	Marine vessels loaded at the proposed facility are expected to be in dedicated service and will only transport high grade methanol. If a non-dedicated vessel is contracted for service, the vessel's cargo tanks will be purged and cleaned prior to arrival at the facility in accordance with industry standards. This will prevent unknown pollutant streams from being discharged into the wet scrubber.

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Major Source Status	54	The criteria for major stationary sources is found in SWCA 400-113. The proposed project meets most, but not all, of the listed criteria so it is classified as a minor source. However, common sense dictates that a project with such a large quantity of potential greenhouse gas emissions is a major stationary source. The rules and regulations of the SWCAA and Ecology need to be updated to reflect the changing dynamics of industrial development.	<p>The criteria in SWCAA 400-113 for defining a "major stationary source" are consistent with the definitions established by US EPA, which are based on the Federal Clean Air Act.</p> <p>Greenhouse gas emissions from minor stationary sources are not subject to New Source Review under the Clean Air Act. Therefore, greenhouse gas emissions are not within the scope of SWCAA's review and are not addressed in the draft air discharge permit. Federal regulations previously required major source permitting for greenhouse gas emitting sources in accordance with EPA's "Tailoring Rule". The Supreme Court subsequently ruled that greenhouse gas emissions were not a conventional pollutant subject to new source review and invalidated the "Tailoring Rule" (<i>Utility Air Regulatory Group v. EPA, June 23, 2014</i>).</p>
Process Flare Emissions	55	Process flare operation and emissions are significantly underestimated based on comparisons with other methanol plants. The amount of underestimation could be significant in determining whether the proposed project is actually a major stationary source.	The proposed project is being compared to a methanol plant with a different process configuration. A reliable direct comparison of flare operation cannot be made on that basis. The estimates of flare operation proposed in ADP Application CO-694 are based on historic operating experience at a different facility with a similar process configuration.

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Methanol Storage Tank Emissions	56	<p>Potential emissions from methanol storage tanks were estimated using EPA's 'TANKS 4.09d' emission model. EPA no longer recommends using this model, and the model is known to significantly underestimate tank VOC emissions.</p> <p>Use of TANKS and the equations in EPA AP-42 do not assure actual VOC emissions will remain below the calculated potential to emit. The proposed project should be required to use real-time monitoring methods, such as DIAL.</p>	<p>The TANKS program has the potential to underestimate VOC emissions under certain operating conditions, primarily the use of heated tanks. However, EPA recommends use of the equations in AP-42 Chapter 7.1 and/or the TANKS program for calculating volatile emissions from unheated bulk storage tanks provided site specific data is utilized. (<i>EPA, Emissions Estimation Protocol for Petroleum Refineries Version 3, Section 3 - Storage Tanks - April 2015</i>) This approach has been used in the proposed permit consistent with EPA guidance.</p> <p>The methanol storage tanks are enclosed and vented to a secondary emission control system (wet scrubber). Final emissions from the storage tank wet scrubber are verified by periodic emission testing. In response to this comment, SWCAA reevaluated the proposed testing scheme and determined that periodic emission testing may not be sufficient to assure compliance. Consequently, the proposed permit will be revised to require the use of a continuous emission monitoring system (CEMS) to monitor VOC emissions from the storage tank wet scrubber.</p>
Greenhouse Gas Emissions	57	<p>The proposed project has not demonstrated BACT for associated greenhouse gas emissions.</p>	<p>Greenhouse gases from minor stationary sources are not subject to New Source Review. Consequently, the proposed project is not required to demonstrate/implement Best Available Control Technology (BACT) for associated greenhouse gas emissions.</p>

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Visibility Impact	58	<p>The proposed permit does not address compliance with the Gorge Air Quality Strategy. SWCAA is required to perform a visibility analysis for proposed projects and ensure the results are consistent with the overall goals of the Strategy.</p>	<p>The proposed permit is consistent with the Gorge Air Quality Strategy. The Agencies involved with implementing the strategy (SWCAA and Oregon DEQ) committed to evaluating the impacts from major sources (Prevention of Significant Deterioration (PSD)) during associated permitting actions. The NWIWK facility is a minor source of emissions as defined by federal, state and local regulations. Therefore, a visibility impact analysis is not necessary as part of the strategy.</p> <p>The Agencies also monitor air quality in the Gorge as part of the Regional Haze Program. Periodic updates to the Regional Haze program are required by federal regulations. No specific visibility impact analysis for the NWIWK project is required under the Regional Haze program or considered necessary by SWCAA at this time.</p>
Air Quality Index	59	<p>The air quality index (AQI) was developed by EPA as an indicator of potential adverse health conditions. The AQI includes measurements of some elements to be released by this plant. The current age adjusted chronic lower respiratory disease rate for Cowlitz County is higher than the State average. Emissions from the proposed plant will decrease the quality of air we breathe.</p>	<p>The Air Quality Index (AQI) was developed by EPA to assist the public with understanding relative air quality values without the need to understand each of the underlying numerical values for each pollutant. An AQI value of 100 generally corresponds to the national air quality standard for each pollutant. This is the level EPA has established as being protective of public health. AQI values below 100 are generally thought of as satisfactory. Air quality is considered to be unhealthy when AQI values are above 100, primarily for sensitive populations (children, elderly and those with underlying health (respiratory) issues), although everyone is affected as AQI values get higher.</p> <p>The statistic cited for Cowlitz County represents one of the pollutant groups addressed by the existing state and federal air quality standards. Air quality in the Kalama area is generally good (AQI below 50) and elevated AQI values are most often due to wildfires rather than stationary source emissions. Air quality analyses documented in the application indicate that emissions from the proposed facility will not cause applicable air quality standards to be exceeded. SWCAA is prohibited from approving any project (either new or modifications with an increase in emissions) that causes an exceedance of the state and federal air quality standards (equivalent to an AQI value of 100 or greater).</p>

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Quantitative Risk Assessment	60	Submitted comment was a rebuttal to the August 3, 2016 Quantitative Risk Assessment technical memorandum contained in the FEIS. The technical memorandum was submitted by the applicant in response to DEIS comments submitted by the commenter.	Quantitative Risk Assessment is outside the scope of SWCAA's New Source Review authority. This specific comment is directly related to a previously submitted comment on the Draft Environmental Impact Statement (DEIS). SWCA will forward the comment to the attention of the SEPA authority, Cowlitz County.