West Coast Olefins Ethylene Project - Working Group Meeting Notes

Tuesday, October 22nd, 2019 from 8:30 am - 4:00pm (PST)

Plaza Building, 2nd floor Fraser Room (1011 4th Avenue, Suite 213, Prince George)

Teleconference: Toll-Free: 1-888-952-9304, 439795#

Meeting Participants

Leidlhi T'enneh First Nation (LTFN)

Rena Zatorski Joe Gosnell Jr.

Local Government

Kenna Jonkman, Regional District of Fraser-Fort George

Provincial Government

Terry Pratt, Environmental Assessment Office (EAO)
Matt Rodgers (EAO)
Beth-Anne Salzer (EAO)
Ann Godon, Ministry of Environment and
Climate Change Strategy (ENV)
Gail Roth, ENV
Laila Potvin, ENV – by phone
lan Higgins, ENV

Duane Chapman, Ministry of Energy Mines and Petroleum Resources (EMPR) - by phone Mike McLachlan, Ministry of Forestry, Lands, Natural Resource Operations and Rural Development (FLNRORD)
Duncan McColl, FLNRORD
Phillip Krauskopf, FLNRORD
Joel Kinzie, FLNRORD – by phone
Paula Tait, Northern Health (NH)
Matt Scarr, BC Oil and Gas Commission (OGC)
Marc Chawrun, OGC

Proponent and Consultants

Ken James, West Coast Olefins (WCOL) Ron Just, WCOL Laura Byrne, WCOL Sarah Bowie, Hemmera – by phone Dennis Kim, Hemmera – by phone Charlie Palmer, Hemmera – by phone

Meeting Objectives

Ed Hoffman, ENV

- For the Environmental Assessment Office (EAO) to provide an overview of the environmental assessment (EA) process;
- For the proponent, West Coast Olefins Ltd. (WCOL) to provide an overview of the West Coast Olefins Ethylene Project (the proposed Project), baseline studies to date, and a short overview of identified potential initial valued components (VCs) and effects; and
- For the working group to ask initial questions and discuss preliminary issues and concerns with the EAO and WCOL.

Introductions and Overview of the EA Process

- The EAO opened the meeting acknowledging that it was being held on Lheidli T'enneh First Nation (LTFN) territory.
- The acknowledgement was followed by a round of introductions of all attendees in the room and those calling in remotely.

The EAO Provided an Overview of the EA process

• The EAO provided a brief introduction to the new *Environmental Assessment Act*, expected to come into force in fall of 2019.

- Current projects in the EA process, including the proposed Project, will proceed under the current Act if they have a Section 11 order prior to the new Act coming into force.
- Elements of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) are being incorporated into the current EA process, such as seeking consensus at key points in the EA, incorporating Indigenous Knowledge, and working within Indigenous nations' decisionmaking processes.
- The proposed Project is currently in the pre-application phase of the EA process. A Section 11
 order that sets out the scope and the process of the EA has been drafted and is being reviewed
 by WCOL and LTFN.
- The EAO noted that this is an initial working group meeting to introduce the proposed Project to the working group, discuss initial candidate valued components, and solicit early input from the working group for the creation of the Valued Components (VC) document.
 - The EAO noted that working group will be involved during the VC selection process to ensure that WCOL is "hitting the mark", including having selected appropriate VCs, and having identified adequate indicators and measurable parameters.
- The VC document forms the basis for the Application Information Requirements (AIR) and the Application for an EA certificate.
- The draft AIR (dAIR) is expected to be available for working group review and public comment in early 2020. A minimum 30-day public comment period and EAO-led public open house will be held on the dAIR.
- There will be a second public comment period and EAO-led public open house on WCOL's Application and a third public comment period on the EAO's draft Assessment Report and draft conditions.
 - o A question was raised around timing of the 3rd public comment period.
 - The EAO clarified that this will be an additional 30 days on top of the legislated 180-day Application review period.
- According to WCOL, the proposed Project at present does not trigger a federal review under the Impact Assessment Act of Canada. However, WCOL is to confirm this with the appropriate federal agency.
- The EAO reviewed the roles of the EAO, the proponent, the working group, and Indigenous nations in the EA process. The EAO noted that it is important for proponents to provide concise and timely information during the EA.
- The EAO noted that during public review periods, proponents must track and respond to all public comments and issues raised. The EAO will review comments to ensure proponents have adequately and meaningfully addressed all comments.
- LTFN asked if participation in the working group is considered consultation.
 - The EAO responded that it is an aspect of consultation, however there are additional government-to-government consultation and engagement opportunities in a collaborative EA process such as this one.
 - The EAO noted the importance of having LTFN's knowledge and input on the working group to build an understanding of the nation's interests and concerns.
- A question was raised about whether the proposed Project will go through concurrent review of permitting.
 - o The EAO noted that WCOL has not opted for concurrent permitting at this time.
 - WCOL commented that there is potential for the EA and permitting processes to run in parallel, but no intention to have concurrent application processes.

- A question was raised about whether the Natural Gas Liquid (NGL) Recovery Plant would trigger an EA.
 - WCOL responded that it does not trigger an EA but would go through necessary permitting processes, primarily through the OGC.

WCOL Overview of the Proposed Project

- WCOL reviewed the market opportunity and commercial benefits of the proposed Project, noting that there is a demand for natural gas products.
- WCOL explained that the proposed Project focuses on accessing value from the existing Enbridge Westcoast pipeline and existing production. The proposed Project would not require any new gas production.
- WCOL discussed the competitive advantages, explaining the benefit of low feedstock cost (input
 cost) and the low logistics and transportation cost of the proposed Project due to the proximity
 to infrastructure and amenities.
- WCOL estimated 800-1000 permanent direct and contract employment positions for the Prince George area from the proposed Project. WCOL stated that employment needs are beyond the capacity of Prince George, but the intent is to hire locally as much as possible.
- WCOL noted that the design of modern facilities would incorporate features intended to
 minimize energy consumption and environmental impact, including the use of clean burning fuel
 (off gas and lean natural gas), ethylene technology advancements, volatile organic compound
 (VOC) emissions reduction design features, recycle and reuse strategies for process water,
 secondary containment for stormwater segregation and reuse, and noise reduction
 technologies.

WCOL Overview of Overall Development

- WCOL provided an overview of the entire proposed development which would include three
 projects: an NGL Recovery Plant, which would be subject to OGC permitting; an Ethylene Plant,
 which is subject to the current EA; and, an Ethylene Derivative (also referred to as a
 Polyethylene) Plant, which would be subject to a future EA. The Ethylene Plant will be operated
 as a midstream service between the NGL Recovery Plant and the Ethylene Derivative Plant.
 Ethylene would be sold to the Ethylene Derivative Plant on a cost-of-service basis.
- WCOL noted that the fact that the three projects will have different ownership that could
 change over time required separate EA certificates for the Ethylene Plant and Polyethylene
 Plant. The current approach was undertaken after discussions with the EAO and OGC to address
 the anticipated future business structure and not for the purposes of scope or project splitting.
- WCOL estimated that the total cost of the three projects would be \$5.6 billion.
- The three projects were discussed including how they would influence the makeup and the shrinkage of the gas flowing down the pipeline.
 - Removing natural gas liquids from the pipeline means more cubic metres of gas is required to deliver the same energy density.
 - It is expected that there will be growth in gas delivery and the upgrading of compressor stations.
- The heavy products (e.g. condensates) from the pipeline will need to be removed and the most profitable location for these heavier products is the Alberta market.
- EMPR noted that while compressor stations along the pipeline will be upgraded, the proposed Project would add more pressure on T south, a pipeline in the Lower Mainland.
 - WCOL noted that lean gas will remove the hydrocarbon dewpoint constraint, leaving only pressure rating constraint of the pipe itself.

- o There is a lot of pressure on T South, and the capacity issue will need to be dealt with.
- ENV noted that natural gas extraction involves the removal of acid gas and sulfur compounds and asked where these emissions will go.
 - o WCOL noted that there would be trace amounts of hydrogen sulfide (H_2S) and carbon dioxide (CO_2). Some would be returned to the lean pipeline gas and some would end up in the ethane stream. There are processes that remove them from the streams and H_2S must meet an industry specification, usually around four parts per million.
- It was noted that the Ethylene Plant is dependant on the Ethylene Derivative Plant. Questions were raised around what would happen if the Ethylene Derivative Plant was not successful in obtaining an EA certificate, and why there will be two separate EAs if one project is dependant on another.
 - O WCOL stated that there is no market for ethylene and the plant would not go forward without the Ethylene Derivative Plant. The largest markets for ethylene derivatives are China and India, there is large annual growth in the industry. WCOL expressed confidence that there is enough demand for an Ethylene Derivative Plant and hope the plants would be built around the same time. Realistically, the order of construction would likely have a lag: first the NGL Recovery Plant, then the Ethylene Plant, then the Ethylene Derivative Plant.
 - WCOL noted that the NGL Recovery Plant can operate profitably as an independent plant.
 - WCOL noted that there is a concern with getting a project like this through the regulatory process as it is new to BC. Investment in the Ethylene Derivative Plant is predicated on development of the Ethylene Plant.
 - WCOL noted that the ethane would be left in the natural gas stream and returned to the Westcoast Pipeline, it would not be continuously flared.
 - WCOL noted that similar projects have not been proposed in BC at this time and investors are waiting to see if there's an appetite for this sort of project.

WCOL Overview of Project Timeline

- WCOL's anticipated timeline for the proposed Project is as follows:
 - Q1 2020: submission of AIR to the EAO
 - o Q2 2020: submission of Application to the EAO
 - o Q3 2020: completion of baseline studies
 - o Dec 2020: investment decision
 - o 2021: site preparation
 - o 2022: fabrication shops
 - o 2023: plant start-up
- WCOL intends to conduct desktop studies during the winter of 2019 using historical data for the Prince George area. Baseline studies would be done in spring and summer 2020.
- WCOL noted that there is a need for a final investment decision by the end of 2020.
 Acknowledging that an EA decision will not likely be made in that timeline, WCOL stated that the goal is to have the feedback and input from the working group on the Application by that point.
- It was asked if the EA process for the Ethylene Derivative Plant would have to be completed prior to site preparation for the Ethylene Plant.
 - WCOL stated that the regulatory process for all three projects will impact overall construction and investment decisions.
 - The NGL Recovery Plant could be built initially if it appears the project is viable.

- Another question was raised regarding the dependency between the Ethylene Plant and the
 Ethylene Derivative Plant, and if the second EA process for the Ethylene Derivative Plant would
 delay the proposed timelines for the Ethylene Plant due to this dependency.
 - WCOL responded that the EA required for the Ethylene Derivative Plant could impact the timelines for the Ethylene Plant.
 - WCOL also reiterated that the NGL Recovery Plant could run on its own and is not dependent on regulatory approvals for the Ethylene Plant and the Ethylene Derivative Plant.
- FLNRORD asked where the NGL Recovery Plant would likely be built, if it is anticipated to be on private or Crown land, and if there will be a pipeline connecting the NGL Recovery Plant to the Ethylene Plant.
 - WCOL responded that the NGL Recovery Plant will likely be located further south of the proposed Project in a separate location not within the proposed Project's site, however the location is currently unknown.
 - The NGL Recovery Plant and the proposed Project would require CN Rail connectivity.
 The Ethylene Derivative Plant would be in a separate location, not within the proposed Project's site. A pipeline would connect the Ethylene and Ethylene Derivative Plants.
- A question was raised about rail transportation.
 - WCOL noted that products from the Ethylene Plant would result in one train carrying eight rail cars per day.
 - The EAO noted that scoping of rail components and the methods used for the cumulative effects assessment are still under discussion.
 - The EAO noted that cumulative effects of all three projects (the NGL Recovery Plant, the Ethylene Plant, and the Ethylene Derivative Plant) will be considered under this EA.
- It was asked how conducting a cumulative effects assessment for all three projects under this process would impact the EA for the Ethylene Derivative Plant
 - The EAO noted that the EA for the Ethylene Derivative Plant would be conducted under the new BC Environmental Assessment Act, but the modelling and research done for this EA could be used to for the EA of the Ethylene Derivative Plant, where applicable.
 - WCOL noted that they will be using data from similar plants in operation (e.g. Joffre Ethylene/Polyethylene Complex in Red Deer, AB) to make estimates for the Ethylene Derivative Plant used in modelling during this EA.

WCOL Rationale for Chosen Location

- WCOL noted that the site was chosen due to its proximity to the Westcoast pipeline, CN rail hub, existing hydro power, and to a static labour force.
- Existing infrastructure and amenities will reduce construction associated with new infrastructure and tie-ins.
- Water intake will be from the Fraser River or from wells. The intention is to maintain a vegetative buffer between the Fraser River and the proposed Project.
- WCOL noted that existing right of ways may be a good choice for moving liquids from the NGL Recovery Plant to the Ethylene Plant.
- The Regional District of Fraser-Fort George asked where the NGL Recovery Plant will be located and noted that if the location of the NGL Recovery Plant is in the Regional District, there will need to be the appropriate applications for land use permits and zoning changes.
 - WCOL responded that the location of the NGL Recovery Plant is currently unknown.

WCOL Overview of Project Scope

Raw water and supply discharge

- WCOL will be exploring using shallow water wells adjacent to the Fraser River rather than
 extraction directly from the Fraser River. Access to the Fraser River would only be for water
 intake.
- WCOL noted that the NGL Recovery Plant would provide the rail and storage for the Ethylene Plant.

WCOL Overview of Construction, Operations, and Decommissioning & Abandonment

- WCOL noted modification and assembly work is required in fabrication plants and involves
 movement to the proposed Project site. Significant transportation of materials would be
 required, and Prince George can only fabricate a small portion. WCOL stated a need to find
 strategies to bring materials to Prince George so they can be efficiently assembled there.
 Materials could come in by rail and/or via the highway.
- WCOL does not expect to have a large construction force on site as they would be bringing in many pre-built modular project components.
- A question was raised around flaring during operations.
 - O WCOL responded that flaring would occur during commissioning and operational testing. There would be a continuous pilot flame at the flare tip as an important safety system if there is a release of hydrocarbons. The flare is a primary safety feature of the plant. Intermittent flaring events would occur during plant upsets, shutdowns, start ups, and to ensure protection and safe operation of equipment. Flaring would be kept to a minimum.
- In response to a question around sewers, WCOL noted that the sewer system would be an above ground and closed system to contain spills, contaminants, and smells with no open exposure.

20 Minute Break @2:30

WCOL Overview of Data Inventory

- WCOL intends on collecting baseline data on ground and surface water, noise and air.
- WCOL noted concerns around the airshed and has identified a need to have a solid baseline to compare WCOL performance and to measure the impact of the plant to in relation to baseline air quality. Baseline studies will be important for tracking if WCOL facilities are functioning as intended.
- Desktop studies will occur in winter 2019/2020 using existing available data.
- Hemmera, LTN Environmental Consulting LP, and CFP Environmental Services will undertake baseline studies for WCOL in the spring/summer of 2020.
- Atmospheric, Aquatic and Terrestrial baseline assessments will be completed.
- Identified species of interest to date include raptors, ground nesting birds and various fish species.

WCOL Overview of Permits and Authorizations

- WCOL provided a list of anticipated permits required for the proposed Project. It was noted that the list may not cover all requirements, and some may not be required. WCOL intends to identify permitting requirements throughout the EA.
- ENV noted that an air permit was missing from the potential permit list. An air permit is required under the *Environmental Management Act* regardless if the permit application is administered by ENV or OGC.

- WCOL commented that the current expectation is that permitting for the NGL Recovery Plant and the Ethylene Plant will by through the OGC, and the permitting for the Ethylene Derivative Plant will likely be through ENV.
- It was noted that the permit list did not include local government authorizations.
 - o **ACTION**: The EAO stated that for thoroughness, local government and ALR permitting requirements should be added to the list of potential permits.
- A question was raised about whether a pipeline to the proposed Project would be required and if it would require a Licence of Occupation for the pipeline right of way.
 - WCOL responded that the transfer of natural gas liquids via a short connector pipe will be part of the scope of the NGL Recovery Plant and the pipeline would occupy fee simple land.
 - It was noted that some federal permitting may be required for the pipeline and for water extraction.

WCOL Overview of Preliminary Valued Components

- WCOL presented a list of conceptual valued components (VCs) and noted that the list is for working group input and has not yet received input from their environmental consultants.
- WCOL is discussing holding a separate public consultation process on the VC document with a proponent-led public Open House.

Air Quality

- WCOL acknowledged that air quality is a major issue in the community.
- The EAO asked what the potential emissions would be from the proposed Project:
 - \circ WCOL responded that volatile organic compounds (VOCs), nitrogen oxides (NO_x), sulphur oxides (SO_x), carbon dioxide (CO₂), and other compounds would be emitted.
 - WCOL stated that it is the amount of emissions that is important and there needs to be an understanding of emissions in context and in order of magnitude to understand the degree of potential impact.
- A question was asked if air quality will be part of the cumulative effects assessment during the EA for the proposed Project.
 - WCOL provided their interpretation of the cumulative effect analysis: VCs are identified and reviewed by Indigenous nations, the EAO, the Working Group and WCOL. The VCs are assessed, residual impacts are identified, and it is decided which VC will undergo a cumulative effects assessment.
 - The EAO clarified that a cumulative effects assessment is more nuanced than this.
 Typically, potential effects of the Project are assessed on VCs and mitigation measures are determined and applied. If there are residual adverse effects on a VC following the application of mitigation measures, the VC would undergo a cumulative effects assessment.
 - WCOL raised concerns on reporting on effects of another project that WCOL is not designing or operating if it is the sole contributor of a certain emissions or effects.
 - The EAO responded that the other two projects the NGL Recovery Plant and Ethylene Derivative Plant - fall under "reasonably foreseeable future projects" that must be considered in the proposed Project's cumulative effects assessment.
 - ACTION: The EAO requested that WCOL draft a memo describing how WCOL intends to address cumulative effects in the proposed Project's EA for all three components, which will be sent to the working group for their understanding and review.

 FLNRORD noted that the largest emissions of the three projects appear to be from the NGL Recovery Plant and associated rail traffic, which would be considered under OGC permitting.

GHG emissions and management

Ground water/surface water quality and quantity

- A question was raised about what will be considered 'water discharge' from the proposed Project.
 - WCOL responded that a large portion of the raw water supply would be evaporated in a Cooling Tower and as a result a blowdown stream is required from the cooling water and the steam system to control contaminants (mainly dissolved solids such as calcium).
 Testing and treating will occur before these blowdown streams are discharged.
- WCOL noted that there is a need to assess the requirements of the receiving stream, and this will inform the type of treatment required before discharge.
- WCOL noted they need to undertake early geotechnical work to see if water supply from a well is feasible.
 - The EAO noted that test results will need to get in before winter, and if not, it is likely these tests will need to be conducted in spring.
 - WCOL responded that they are unsure if that is attainable to complete before winter of 2019.
- WCOL noted that water needs for the proposed Project would be approximately 600-650 cubic meters per hour and the highest consumption would be during summer months, lowest in winter.

Vegetation

<u>Wildlife</u>

Aquatic/Atmospheric/Terrestrial Habitats

- WCOL noted that indicators for vegetation, wildlife, and aquatic/atmospheric/terrestrial
 habitats have not yet been developed. WCOL will be working with consultants to determine
 indicators and parameters.
- FLNRORD noted that most aquatic environmental effects will be tied to groundwater movement and maintaining a vegetative buffer on all sides of the proposed Project will minimize potential impacts.
- WCOL stated that typically all water used in the process is collected, then tested and released or recycled as cooling water.

Land and Resource Use

Visual Quality (including light)

- FLNRORD asked if noise will be included as a VC.
 - Hemmera responded that depending on the level of potential effects, noise is often addressed under the atmospheric environment or health VCs.
 - Given that the site is zoned industrial, WCOL is proposing to not include noise as a VC, but as a subcomponent of general atmospheric input or of the health VC.

Economic

WCOL noted that they are looking at opportunities to integrate and work with local businesses.

Health

 NH noted that WCOL needs to consider including effects to local infrastructure and services, including health.

Heritage

- The EAO noted that the heritage VC usually includes archaeological resources, historical resources, and paleontological resources.
 - WCOL suggested launching an archaeological study and discussing more with the EAO and archaeological experts to gain a better understanding of the proper procedures, should archaeological items be uncovered.

WCOL Overview of Consultation with L'heidli T'enneh First Nation

- WCOL noted their intention to work collaboratively with LTFN and explained that for both Indigenous communities and the public, the proposed Project has complex elements.
- WCOL stressed the importance of frequent and meaningful communication to help the community become comfortable with their understanding of the proposed Project.
- WCOL stated consultation efforts will continue to be defined through the development of an Indigenous Consultation Plan.

WCOL Overview of Public Consultation

- WCOL stated their objectives are to engage early to identify potential areas of interest/impact, to maximize the involvement of local contractors, and to seek synergies with local businesses.
 Consultation efforts will continue to be defined through the development of a Public Consultation Plan.
- Potential areas of public interest identified to date include: economic diversification; local job creation; airshed concerns; increased traffic; and, concerns over the location of the proposed Project area.
- The EAO noted that there are opportunities for public input at three points in the EA process: during the dAIR phase, during Application review, and following the drafting of the EAO's Assessment Report and draft Conditions. All public comments are recorded and must be responded to in a meaningful manner by the proponent.
- WCOL emphasized that they will not force a project if the public obviously opposes it.
- ENV noted that Prince George is very engaged in conversations on air quality and there is historical anxiety around air quality due to past industrial impacts.
- A concern was raised about how the community will be able to comment on the full scope of
 the development (e.g. all three projects) as the EA is focused only on the Ethylene Project. There
 is concern that comments raised on the full development could be excluded and it may not be
 clear to the public what aspect they should be commenting on and what is out of scope. It was
 noted that important community perspectives should not be lost because they are considered
 out of scope for this EA.
 - The EAO noted that this will need to be considered further and it will be part of the discussion on cumulative effects.
- WCOL noted that the Ethylene Derivative Plant's third-party partner could be announced in the first quarter of 2020 and it would likely enter the EA process shortly thereafter.
 - The Regional District of Fraser Fort George asked if the EAO would streamline public consultation and, in that case, could a member of the public comment on both projects?
 - The EAO responded that it is possible and could make the public consultation more efficient, resulting in a fuller scope of input from public. However, it would depend on the timing of the EA processes and which stage of the EA they are in.

General Questions and Discussion

- Regarding baseline data, WCOL stated that from discussions with their consultants, they have identified that the seasonal window has closed for field work. Therefore, desktop work will be done first, and based on the results from this, the approach to field work will be revised or modified.
- ENV noted that at least a year's worth of data for air quality modelling is usually required. Some of the data may already exist, but additional data may be required. WCOL should start collecting baseline data as early as possible to avoid delays.
- WCOL stated they are currently in discussions with the University of Northern British Columbia to conduct air quality modelling. WCOL will also connect with the Prince George Air Improvement Roundtable (PGAIR) to discuss available data.
 - ENV noted that PGAIR does not house or own data and that ENV is the central repository for most air quality data collected in Prince George.
- WCOL noted that they decided to start their field work in the spring to include nesting birds and early blooming flowers.

Next steps

- The EAO is drafting the Section 11 Order in consultation with LTFN and WCOL and anticipate issuing the order at the end of November.
- The working group will be sent the draft VC document with the proposed VC regional study areas (RSAs) and local study areas (LSAs) for review and comment, once available.
- A working group meeting will be convened on the draft AIR, potentially in early 2020.

Action Items

- WCOL to update their list of anticipated permits.
- WCOL to provide a memo to the EAO for distribution to the working group on their proposed course of action for assessing cumulative effects of the three components of the development.
- The EAO to share the date of the proponent-led Open House on the VC document once it is known.

Meeting Adjourned @3:45pm