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Project Manager
Impact Assessment Agency of Canada
Prairie and Northern Region

Submitted by email: condensate-condensat@iaac-aeic.gc.ca

Subject: NRCan Federal Authority Advice Record (FAAR) Response for Josephburg Condensate Fractionation Project.

On July 17, 2025, Natural Resources Canada (NRCan) received a request from the Impact Assessment Agency of Canada to review and comment on the Initial Project Description for the Josephburg Condensate Fractionation Project.

Pursuant to section 23 of Impact Assessment Act (IAA 2019) is participating in the environmental assessment of the Josephburg Condensate Fractionation Project as a subject matter expert providing expertise in oil and gas socio-economics, petroleum refining processes, heavy oil processing including distillation/fractioning, and energy pipeline materials and manufacturing.

NRCan has reviewed the Josephburg Condensate Fractionation Initial Project Description and Summary of the Initial Project Description. NRCan's comments are included in the Attachment 1: Federal Authority Advice Record (FAAR) form.

If you have any questions, comments, or concerns, please contact Natalie.Robinson@nrcan-rncan.gc.ca

Sincerely,

Robinson, Natalie N
Digitally signed by Robinson, Natalie N
Date: 2025.08.05 21:49:45 -06'00'

Natalie Robinson
Sr. Impact Assessment Officer
Impact Assessment Division, Office of the Chief Scientist
Natural Resources Canada

CC: Annie Montpetit, Acting Team Lead, Impact Assessment Division
Sonja Kosuta – Senior Director, Impact Assessment & Science Capacity
Attachment 1: Federal Authority Advice Record Josephburg Condensate Fractionation Project

Canada

Attachment 1

Federal Authority Advice Record (FAAR)
FAAR Response must be submitted by August 6, 2025
Josephburg Condensate Fractionation Project – Keyera Energy Ltd.
Registry File: [89634]

Department/Agency	Natural Resources Canada
Lead Contact	Natalie Robinson
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1. Will your department or agency exercise a **power, perform a duty or function**, or provide **financial assistance**, related to the project to enable it to be carried out in whole or in part?

   As relevant,
   a) Specify the power, duty or function, or financial assistance, and the likelihood that it will be required to construct the project, based on the Initial Project Description, as either Required, Potential, Likely, Unlikely or Not Required

      Based on the information provided to date, NRCan is unlikely to exercise a power or perform a duty or function pursuant to the Department's regulatory role under the *Explosives Act*.

   b) Describe any associated Indigenous or public consultation, including timelines
      No Indigenous or public consultation is anticipated in relation to the exercise of that function.

   c) Describe any associated information requirements (e.g., alternative means assessment, habitat offsetting), and specify those that may be coordinated with the impact assessment process, if an impact assessment is required[1]
      N/A

   d) Identify any associated project-specific guidance or issues of which the proponent should be aware, or information the proponent should provide.

      It is recommended the proponent provide a description of the overall economic value returns to federal and provincial governments, and overall cost benefits to the value chain and natural gas producers.

      The project could be considered for addition to the list of Projects In The National Interest under the "Free Trade and Labour Mobility in Canada Act and the Building Canada Act" because it will supply diluent to meet increased demand from oil sands producers which are anticipating increased production to deliver on Canada's mandate to become a conventional and clean energy superpower.

2. **Using Table 1**, identify project- and context- specific **key issues**, based on the expertise within your mandate[2] and the information in your possession, including the Initial Project Description, any exchanges with the proponent or others related to the project and known means to address the effects of the project. For each key issue:

   a) Specify the key issue (e.g., specific species and location)
   b) Specify the project component or activity linked to the key issue

[1] The Government of Canada has set a target of five years or less to complete federal impact assessments and related permitting processes for federally designated projects and a three-year target for nuclear project reviews.
[2] Refer to the Memoranda of Understanding with IAAC.

c) Explain why it's a key issue based on:
   i. biophysical effect pathway(s) from the specific project component or activity
   ii. concern unique to the project or a priority within your mandate
   iii. the issue being material[3] to decision making under the *Impact Assessment Act*
d) Identify how the issue could be resolved, including through means other than an impact assessment
e) Identify additional information the proponent could provide including to give confidence on how the issue can be addressed through other means.

Natalie Robinson
Sr. Impact Assessment Officer
Name and title of Departmental / Agency Responder

August 6, 2025
Date

[3] An issue is material to decision making if its analysis is anticipated to affect the conclusions on (1) whether adverse effects within federal jurisdiction or direct and incidental adverse effects (collectively adverse federal effects) are likely not significant, or of low, medium or high significance; (2) appropriate mitigation measures for significant adverse federal effects; or (3) justification in the public interest.

Table 1: Key Issues to inform the impact assessment process [NOTE: NOT ALL COLUMNS HAVE TO BE COMPLETED IF YOU IDENTIFY AN ISSUE]

This table should outline key issues to inform the impact assessment process, including whether an impact assessment is required and, if so, the scope of the assessment and tailoring of the Tailored Impact Statement Guidelines.

Key issues are the major concerns directly related to a project component or activity, the analysis of which is anticipated to be material to decision-making under the *Impact Assessment Act*.

Federal authorities' advice should be guided by the identification and resolution of key issues. If an impact assessment is required, it will be focused on key issues.

Comment ID	a) Key issue	b) Project component or activity	c)(i) Biophysical effect pathway(s)	c)(ii) Concern unique to the project or a priority within your mandate	c)(iii) Material to federal decision-making	d) Means for issue resolution	e) Additional information from the proponent

Identify comments by organization and comment number.
 	
e.g.: IAAC-01
	Specify the key issue (e.g., specific species and location).	*Identify the project component or activity linked to the key issue.*
		
		Be specific about the nature, scale, novelty and complexity or the component or activity.
			Identify the specific biophysical effect pathway between the project component or activity and the affected environmental or human receptor (including Indigenous Peoples).	*Describe why it's a key issue within the mandate of your department or agency, including in terms of priorities of the federal government and in terms of anticipated likelihood, severity or uncertainty of effects.*
				
				Identify if the key issue is common for projects of this nature or in this sector, or whether it's unique to this project due to its complexity, size or novelty; a sensitive or rare receiving environment; and/or proximity of sensitive environmental or human receptors (including Indigenous Peoples).
					Describe why the key issue is material to decision-making as either:
					• *an adverse effect within federal jurisdiction, or a direct or incidental adverse effect, that may be significant based on available evidence including:*
					  ○ *federal experts' knowledge and experience with past project assessments;*
					  ○ *presence of sensitive species, habitats or human receptors (including Indigenous Peoples);*
					  ○ *novel or complex project activities, components or technologies;*
					  ○ *high uncertainties in effects or in the effectiveness of mitigation measures;*
					  ○ *unknown or unproven mitigation; or*
					• *a factor for the justification in the public interest anticipated to be material to decision-making such as a likely positive effect contributing to sustainability, to Canada's environmental obligations or climate change commitments or in supporting governmental priorities, such as reconciliation with Indigenous Peoples.*
						Describe how the key issue could be resolved or addressed by:
						• *Any means, including powers, duties, functions, frameworks, policies or guidance that your department or agency has;*
						• *Any means, including powers, duties, functions, frameworks, policies or guidance from another jurisdiction, including the province;*
						• *Common, proven, well-understood or standard mitigation measures to mitigate the effect or effect pathway(s); or*
						• *Commitments made by the proponent (e.g., in the Initial Project Description).*
							Describe information the proponent can provide, or commitments the proponent can make, in their Response to the Summary of Issues that would provide confidence that the issue can be resolved by existing means.
							
							Consider whether information, studies, analyses or collaborative work with other authorities would be required to address the issue beyond existing means.

NRCan-01	Protection of fish and fish habitat in North Saskatchewan river.	Discharge of treated wastewater into the river from the project must meet federal government regulations.	Potential negative impact of discharged wastewater on fish habitat.	The issue is important to the ecosystem along the river. The likelihood and severity are low as long as the proponent meets government regulations on discharged wastewater into the river. This issue is common for projects using fresh water and discharging wastewater	The issue is material since negative impacts to fish and fish habitat and the ecosystem along the river is an adverse effect within federal jurisdiction.	Could be mitigated by use of mature commercial wastewater treatment technologies and by meeting discharge specifications.	If the project is assessed under the Impact Assessment Act, it is recommended that the proponent provide more details regarding wastewater treatment.

NRCan-02	Potential use of some products as transportation fuels	If some of the fractionated streams are used/sold as transportation fuels, they must meet the corresponding fuel specifications and the Clean Fuel Regulations on life cycle carbon intensity.	Transportations fuels that do not meet their corresponding specifications and Clean Fuel Regulations for carbon intensity are not allowed to be sold and consumed.	Under NRCan's mandate, at fuel specifications and life cycle carbon intensity must be met according to ECCC's LCA model for adherence to the Clean Fuel Regulations.	The key issue is material for both air emission (fuel specifications) and GHG emissions (carbon intensity), both important factors as they impact Canada's environmental obligations or climate change commitments.	Could be mitigated by ensuring the fractionated products meet the corresponding fuel specifications and the Clean Fuel Regulations on life cycle carbon intensity.	It is recommended to perform standard ASTM analyses for fuel properties and specifications and to perform LCA carbon intensity analysis using ECCC's model.
NRCan-03	Sulphur removal (see Initial Project Description Summary, Section 2.4)	If sulphur removal is required for some of the fractionated streams, the process and technology to be used for sulphur removal, disposal or recovery of the removed sulphur should be specified	The removed sulphur might be in the form of either gas, liquid or solid phase, depending on the process and technology to be used. Disposal or recovery of this waste/byproduct stream must be done according to environmental regulations	Under NRCan's mandate, this issue is important since any wastes/by-product from the project must meet specifications before they are released to the environment or sold in the market for adherence to the Clean Fuel Regulations.	The key issue is material for environmental protection and emission control, both important factors as they impact Canada's environmental obligations or climate change commitments.	Could be mitigated by ensuring the removed sulphur is properly dealt with, and any wastes meet emission specifications before being released.	It is recommended to specify which state-of-the art processes and technologies for sulphur removal, disposal and recovery are to be used.
NRCan-04	Water Treatment	Treatment of the water produced	Fresh water is treated on site to produce boiler feed water for steam production. Boiler blow down is collected in produced water tank. Produced water is also removed from the hydrocarbon feedstock. CDU and condensate stabilizer will also generate produced water. The produced water will be highly contaminated in hydrocarbons and chemicals and other pollutants.	Possible migration of pollutant to waterbodies and land due to uncertainty in the mitigation measures. While the issue is common to projects of this nature, it could have severe negative effects on waterbodies or underground water.	The key issue is material due to the possible severe negative effects on waterbodies and/or underground water and the consequent impacts to fish and fish habitat.	The proponent provided the options of handling produced water: either by trucking to a registered facility or installation of an offside disposal well. potential impact of these two options varies significantly and depends on the amount and types of contaminants in the produced water. The trucking option needs a lot of logistics and sorting of trucking loads to the treatment facility with the risk of spills and accidents. Disposal in an offsite well needs to assess the potential migration of polluted water and contaminants to the underground water.	If the project is assessed under the Impact Assessment Act, it is recommended that more information is required about the amount of produced water and the types of contaminants that are present in the water. The final selection of the proposed method needs to be provided in order to assess the suitability of the mitigation measure.
NRCan-05	Calculations of Green House Gas (GHG) emissions (see Initial Project Description Summary, Section 5.6 Waste and Emissions).	The proponent indicates that GHG emissions is calculated "*using industry standard calculations*".	There are no "industry standard calculations" for calculating GHG emissions. There are life cycle analysis (LCA) models commonly used by industry and governments for this purpose	This issue is important for properly estimating the GHG emissions of the any oil and gas related projects.	The key issue is material for environmental protection and emission control, both important factors as they impact Canada's environmental obligations or climate change commitments.	Could be mitigated by using the commonly accepted LCA models for the calculations.	NRCan recommends that the proponent provides more details on how the GHG emissions are estimated. It is furthermore recommended that the proponent consult with the organizations or companies that specialize in LCA assessment for the calculations.

NRCan-06	Air emissions and GHG emission	Construction Operation Decommissioning	Air emissions are anticipated during construction and decommissioning operations, as well as during the lifetime of project operation. The Hamlet of Josephburg is located 4.5 km southeast of project site. A company-owned leased land that is used for agricultural purposes is located 1 km east of project site. The closest residence is located approximately 1.5 km south of the project site. The Scotford Colony School is located about 1.8 km southeast of the project site.	Related to Federal Regulations: Reduction in the Release of Volatile Organic Compounds Regulations. (Petroleum Sector) (SOR/2020-231) Reduction in the Release of Volatile Organic Compounds (Storage and Loading of Volatile Petroleum Liquids) (SOR/2025-88) Reduction in GHG Emissions to 45-50% below 2005 levels by 2035. Net-Zero by 2050. The key issue will be increased air emissions and increased GHG emissions to industrial area emissions. The issue is common to projects of this nature.	Direct and indirect sources of GHG emissions are anticipated during construction, operation, and commissioning, both important factors as they impact Canada's environmental obligations or climate change commitments. GHG emissions are estimated based on ECCC models and emission factors. The IPD has identified the project will not have CO2 capture or storage, avoided domestic GHG emissions, or offset credits.	The use of off-gas from the condensate stabilizer in a fuel in the charge heater is an acceptable measure to reduce the impact of off-gas to air emissions. This measure is proposed by the proponent. Waste heat for the heater exhaust will be used to pre-heat the feed to the CDU. It integrates heat among process streams and equipment to reduce the need of energy and to reduce GHG emissions. This measure is proposed by the proponent.	The proponent submitted a block flow diagram of the processes. A process flow diagram, where all the process streams are shown is required. IPD calculated the fugitive emissions based on a comparable facility in a Keyera Fort Saskatchewan plant. If the project is assessed under the Impact Assessment Act (IAA), it is recommended that more information about the similarity of the facility and the project be provided in order to assess the suitability of this assumption. Furthermore, it is recommended to complete an air quality assessment.
NRCan-07	Flaring and effects on air quality.	Project operation.	Flaring will be used to dispose of and to manage excess gases during normal operation and during startup and shutdown.	The key issue will be meeting GHG reduction targets (Reduction in GHG Emissions to 45-50% below 2005 levels by 2035). Net-Zero by 2050. (NAV Canada) The issue is common to projects of this nature.	The key issue is material for environmental protection and emission control, both important factors as they impact Canada's environmental obligations or climate change commitments.	Could be mitigated by stack design to ensure effective dispersion and nnotification of stacks of a given height.	NRCan recommends that the proponent comply with nnotification of stacks of a given height and the design of flare stack to ensure effective dispersion.

Please insert additional rows as necessary.