Canadian Environmental Assessment Agency | Agence canadienne d'évaluation environnementale

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July 12, 2019

Sent by E-mail

Steve Bettles
Husky Oil Operations Ltd.
351 Water Street, Suite 105
St. John's, Canada A1C 1C2
Steve.Bettles@huskyenergy.com

Dear Mr. Bettles,

SUBJECT: Husky Energy Exploration Drilling Project – Round II Information Requirements

On December 21, 2018, the Canadian Environmental Assessment Agency (the Agency) sent Information Requirements (IRs) and clarifications to Husky Oil Operations Ltd. following a technical review of the Environmental Impact Statement by the Agency, other federal government experts, Indigenous groups, and the public. Husky Oil Operations Ltd. responses to the IRs and clarifications were provided on March 21, 2019. The Agency determined that the responses to 102 of the 110 information requirements and the responses to 29 of the clarifications were sufficient to facilitate a technical review.

With respect to the conforming responses, the Agency has reviewed comments from federal departments and Indigenous groups and completed the technical review, identifying 15 follow-up IRs (Attachment 1). The requests are denoted as follow-up by the addition of the number '-2' to the IR number (e.g. IR-01-02).

The Agency has not yet received comments from all participating Indigenous groups and may submit additional IRs if additional comments are received.

The Agency requires acceptable responses to the IRs in order to complete its review of the Environmental Impact Statement and to proceed with the preparation of its Environmental Assessment Report. Once you have submitted complete responses to all IRs, the Agency will determine whether the required information has been provided. If the Agency determines the responses to be complete, it will commence a technical review of the responses; if the responses are determined to be incomplete, you will be notified at that time. The issue of these follow-up IRs will not automatically pause the timeline for the environmental assessment; however, if responses to the IRs are not received within 30 days of

the issue of this letter, the timeline will be paused at that time until the responses are received by the Agency.

The responses may be in a format of your choice; however, the format must be such that the responses to individual IRs can be easily identified. You may wish to discuss certain IRs with the Agency or other government experts, as necessary, to obtain clarification or additional information, prior to submission of the responses. Working directly with government experts in this manner will help to ensure that IRs are responded to satisfactorily. The Agency can assist in arranging meetings with government experts, at your request.

The IRs and your responses will be made public on the Canadian Environmental Assessment Registry Internet site: https://www.ceaa-acee.gc.ca/050/evaluations/proj/80130?culture=en-CA.

The Agency is available to further discuss the information requirements. Please contact me at 902-407-7558 or via email at ceaa.husky.acee@canada.ca

Sincerely,
<original signed by>

Amanda Park
Project Manager
Canadian Environmental Assessment Agency

Attachment (1) – Husky Energy Exploration Drilling Project – Round II Information Requirements

Cc: Elizabeth Young, Canada - Newfoundland Labrador Offshore Petroleum Board
Darren Hicks, Canada - Newfoundland Labrador Offshore Petroleum Board
Bret Pilgrim, Fisheries and Oceans Canada
Glenn Troke, Environment and Climate Change Canada
Sara Rumbolt, Health Canada
Jason Flanagan, Transport Canada
Maximilien Genest, Natural Resources Canada
Carla Stevens, Major Projects Management Office
Carol Lee Giffin, Department National Defence
Vanessa Rodrigues, Parks Canada
Joe Behar, Crown-Indigenous Relations and Northern Affairs Canada

Attachment 1
Husky Energy Exploration Drilling Project
Round II Information Requirements from Environmental Impact Statement Review
July 12, 2019

INTRODUCTION

On December 21, 2018, the Canadian Environmental Assessment Agency (the Agency) sent 110 information requirements (IRs) and 29 clarifications to Husky Energy (the proponent) based on the technical review of the Environmental Impact Statement (EIS) and associated EIS Summary for the proposed Husky Energy Exploration Drilling Project. The proponent submitted responses to the IRs and clarifications on March 21, 2019. The Agency, other federal government experts, and Indigenous groups have reviewed the IR responses and the Agency has prepared additional IRs, as elaborated in this document.

ACRONYMS AND SHORT FORMS

Agency	Canadian Environmental Assessment Agency
C-NLOPB	Canada-Newfoundland and Labrador Offshore Petroleum Board
cm/sec	centimeter per second
EL	exploration licence
EIS	Environmental Impact Statement
IR	Information Requirement
km	kilometre
GHG	Greenhouse Gas
MODU	mobile offshore drilling unit
WREP	White Rose Extension Project
WNNB	Wolastoqey Nation in New Brunswick

ROUND II INFORMATION REQUIREMENTS AND REQUIRED CLARIFICATIONS FOR THE HUSKY ENERGY EXPLORATION DRILLING PROJECT

IR Number	Reference to EIS	Context and Rationale	Specific Question/ Information Requirement
IR-01-02	Section 2.5.2 Drilling	In IR-01, the Agency required the proponent to provide clarification on the circumstances under which simultaneous drilling could occur. The proponent indicated that simultaneous exploration drilling is not anticipated within any one exploration licenses, but likely to occur in the project area. However, the proponent has not provided comment on if simultaneous drilling may occur between exploration licenses within the scope of the project.	Provide clarification on the potential for there to be simultaneous drilling in separate exploration licenses included in the scope of the project (i.e. drilling in exploration license 1155 and 1152).
IR-09-02	Section 2.5.4 Well Testing; Section 2.9.1.5 MODU Lighting and Flaring	In IR-09 the Agency required additional information on the technical feasibility of reduced flaring and if well testing while tripping or any other type of test were considered as alternative means. The proponent stated that alternative well testing technologies are continually evaluated, including but not limited to formation testing while tripping, and that well testing technology is assessed on a well-by-well basis. While Husky indicated that formation testing while tripping may be considered when assessing alternative well testing technology there was no discussion on how the test is carried out, how they may interact with the environment and potential environmental effects.	As the proponent has indicated that well testing while tripping may be considered an alternative well testing technology, provide a discussion of this alternative means of carrying out the Project in accordance with the Agency's Operational Policy Statement: Addressing "Purpose of" and "Alternative Means" under the *Canadian Environmental Assessment Act, 2012*. Provide information on how the tests are carried out, how they might interact with the environmental, and potential environmental effects. Given that this method, and potentially others, may reduce or eliminate the need for flaring, discuss under what circumstances or for what reasons it would not be selected as the preferred option for well testing.
IR-11-02	Section 2.6.3.1. Atmospheric Emissions; Section 6.6.10.3 Characterization of Residual Project-Related Environmental Effect	The Agency required the proponent to provide the assumed composition of waste being flared, volumes being flared, and emission factors used to determine the final total emission rates. The proponent did not provide the assumed composition and volumes estimated for flaring or the emission factors used to obtain the final total emission rates. Environment and Climate Change Canada advised that while the proponent's response states that the emissions from power generation are included in the MODU GHG estimate, the basis of the GHG emissions calculation is not provided. The proponent refers to a 2012 Stantec report, to describe the assumptions used to calculate MODU emissions but does not describe how MODU GHG were derived. Detail regarding what emission factors or activity data were used to calculate MODU GHG emissions were not provided. Further Natural Resources Canada recognizes that the GHG emissions have been updated from Table 2.14, to Table 1 in the proponent's response to IR-11. However, there has been no change or comment on any corresponding changes to update the criteria air contaminants emissions.	Provide the assumed composition of the waste being flared, the estimated volume of waste that will be flared, and the emission factors used to obtain the final total emission rates. If estimates related to the volume of waste and the composition is not known at this time, discuss when the information is anticipated and where or if the information is reported. In order to verify the calculations used to determine the GHG emissions from the MODU, provide the basis of the GHG emissions calculations, including information related to emission factors and activity data. Provide updated criteria air contaminants, if needed, based on updated GHG emissions.

IR Number	Reference to EIS	Context and Rationale	Specific Question/ Information Requirement
IR-20-02	Section 6.6.10.3 Characterization of Residual Project-Related Environmental Effects	The Agency required the proponent to provide an assessment of the potential effects to Swordfish from noise, spills and light. In its response the proponent did not discuss the possible effects of low frequency sound that are typical of offshore operations. While the proponent indicated that zone of influence of light may be small but did not discuss the effects of light.	Provide an assessment of the direct and indirect effects of light and low frequency sound on Swordfish. Update the proposed mitigation and follow-up, as well as effects predictions, accordingly.
IR-22-02	Section 6.1.10.3.1.3 Waste Management	The Agency requested an updated description of corals and sponges in the project area. While Figure 1 provided in response to IR-22 provided an illustrated update of the distribution of corals and sponges in the project area, the information presented does not correspond with all the information provided in Table 4.19 of the EIS. For example, Table 4.19 of the EIS indicates the presence of Coral Gorgonia (no-skelet and skeleton) in exploration license 1152, however Figure 1 indicates there are no Gorgonia corals in exploration license 1152). It is noted that Table 4.19 of the EIS is based on data collected in 2014-2015 DFO RV surveys, however the source of information for Figure 1 in the response to IR-22 is “DFO, 2016”. No reference is provided for DFO 2016.	Revise table 4.19 of the EIS, based on most recent information or provide a rationale as to why information presented in Table 4.19 of the EIS and Figure 1 of the response to IR-22 may differ. Provide of the reference for the data used to develop Figure 1 in response to IR-22.
IR-23-02	Section 2.6.1.1.1 Drill Cuttings and Deposition and Dispersion on the Grand Banks; Section 2.6.1 Drilling Waste	In IR-23 the Agency required a rationale to support how the model and inputs from the 2012 WREP model are applicable to the current project. The proponent stated that "the model inputs used in 2012 were the same as would have been used in a cuttings discharge model for a MODU drilling in ELs adjacent to the White Rose field with a couple of important exceptions." However, as advised by Fisheries and Oceans Canada a rationale is required to demonstrate how the model inputs are applicable to the current project. Specifically, mean current speeds and velocities presented in Table 4.6 for ELs 1151 and 1155 are considerably higher than those used in the 2012 modelling. For example: near surface mean speed presented in Table 4.6 for ELs 1151 and 1155 ranges from 30.5 to 35.8 cm/s; near surface mean speed in the 2012 report ranges from 12 to 20 cm/s. Similarly, the mean near surface velocity presented in Table 4.6 for ELs 1151 and 1155 is 15.9 to 13.5 cm/s whereas in the 2012 modelling report the mean near surface velocity range is 2 to 4 cm/s.	Taking into consideration the information provided by Fisheries and Oceans Canada, discuss how the currents used in the 2012 model for the WREP are applicable to the current Project considering data presented in Table 4.6 of the EIS.
IR-25-02	Section 2.6.1 Drilling Waste	In IR-25, the Agency required the proponent to update the effects analysis for fish and fish habitat and special areas as a result of drilling waste discharges, considering the analysis of the dispersion modelling results and specific mitigation measures planned to avoid and/or mitigate impacts. In its response, the proponent stated that "Husky will conduct a visual survey (using a remotely operated vehicle) of the seafloor prior the start of drilling to assess the presence of any aggregations of habitat-forming corals or	Provide information on the spatial scope of the pre-drill visual survey, including how dispersion modelling results will be incorporated into the survey design.

IR Number	Reference to EIS	Context and Rationale	Specific Question/ Information Requirement
		sponges", however no further information was provided on the visual survey were provided.	
IR-28-02	Section 6.2.10.3.1.4 Supply and Servicing	IR-28 required the proponent to provide information to support the conclusion that sound from supply and servicing activities will not result in a change in risk of mortality, physical injury or health of fish. The proponent has stated that the assessment is based on the relative sound level exposure to Project activities, as the quantitative metrics or guidelines for assessing behavioral effects of sound on fish are not available. Given that quantitative metrics or guidelines are not readily available nor readily applicable, it is necessary to focus the assessment of potential effects on the incremental effect on sound loading/biological exposure. The C-NLOPB has advised that since the proponent predicts no significant change in health effects, injury or mortality, it is necessary to discuss this in the context of the project area, including changes in operational support vessel traffic and standby time, how changes are measured, and the increase in the overall area of the offshore area impacted by operational support vessel traffic and standby.	In the context of the project area, provide information to support the prediction that sound from supply and servicing activities related to the Project will not cause significant change in health effects, injury or mortality to fish. The response should include the following: - Describe how much operation support vessel traffic and standby time will be generated in comparison to the overall traffic and standby time in the project area, as well as how this is measured (i.e. exposure hours), and - Describe how much of this traffic and standby time will be in areas already subject to operational support vessel traffic/standby sonic loading, as well as how much incremental loading will be experienced in these areas.
IR-36-02	Section 6.3.10.2 Mitigation	The Agency required the proponent to define "safe vessel speed" and to explain under which circumstances it would not be possible to travel at the defined safe vessel speed and to explain the factors that may influence the travel route. The proponent provided the definition of safe vessel speed as per the International Regulations for Preventing Collisions at Sea but did not explain what factors may influence the speed at which a vessel travels. Likewise, there was no discussion related to the factors that may influence the travel route.	Discuss factors which would influence the speed at which a vessel may travel and the travel route. Discuss the average speed at which supply vessels would travel in the project area. In addition to the lookout maintained by the Officer on Watch, discuss if there would there be additional resources dedicated to avoiding concentrations of marine mammals and sea turtles. For example, confirm if there would there be marine mammal observers on all supply vessels.
IR-41-02	Section 6.4.10 Assessment of Residual Environmental Effects on Migratory Birds	In IR-41 the Agency required the proponent to provide additional information related to the potential available options to restrict flaring to a minimum, how flaring will be minimized during nighttime, poor weather conditions and during periods of bird vulnerability, and information regarding the episodic nature of incineration at flares. While the proponent did provide information related to episodic nature of incineration at flares, there was no information provided related to options to restrict flaring, or the ability to minimize flaring during nighttime, poor weather and periods of bird vulnerability.	Describe the potential available options to restrict flaring to the minimum required to characterize a well's hydrocarbon potential and as necessary for the safety of operation. Describe how flaring will be minimized during night-time, poor weather conditions, and during periods of bird vulnerability. Based on the information presented related to the episodic nature of incineration at flares, discuss how information would be or is used to develop effective measures to reduce effects on migratory birds.
IR-43-02	Section 6.4.10.2 Mitigation; Section 6.4.12 Follow-Up and Monitoring	The Agency required a discussion of the need for and feasibility of using bird stranding and mortality data as an adaptive management tool. The proponent described the development of a systematic monitoring protocol, results reporting, and observer training, however did not provide	Discuss the feasibility of using bird stranding and mortality data as an adaptive management tool, providing information on how data collected will be incorporated into potential mitigation and monitoring measures. Confirm if information related to mortality and

IR Number	Reference to EIS	Context and Rationale	Specific Question/ Information Requirement
		a discussion on how ,or if, results would be used as an adaptive management tool by Husky. In addition, while it was stated that the data collected related to seabird strandings will be reported to the C-NLOPB within 90 days of well suspension or abandonment, it was not confirmed if information will be shared with Indigenous groups.	stranding and injury will be shared with Indigenous groups, and the involvement of Indigenous groups in the development of the follow up program.
IR-58-02	Section 6.2.10.2 Mitigation	In IR-58 the Agency requested that the proponent discuss if, and how, communal-commercial harvesters and Indigenous groups would be engaged in the development of Husky's compensation programs. In its response the proponent has provided an overview of the compensation program resolution process, however, has not indicated how stakeholders will be engaged in development of Husky's compensation program.	Discuss if, and how, commercial and communal-commercial harvesters and Indigenous groups will be engaged in the development of Husky's compensation program.
IR-72-02	Section 7.2.1.3 Shallow Gas Versus Deep-Well Blowout	In IR-72, the Agency required additional information regarding factors that have led to the decline in frequency of shallow water gas blowouts in the North Sea and Gulf of Mexico, if data on the frequency of blowouts post 1997 is available, and the applicability of this information to the proposed project. In addition, a comparison between shallow gas versus deep-well blowouts, and the applicability to the proposed project was required. In its response the proponent did not discuss the applicability of shallow gas blowouts to the project, the reasons for the decline in frequency of shallow gas blowouts, and the applicability of the data from the North Sea and Gulf of Mexico to the Project.	Explain why shallow gas blowout frequencies in the North Sea and in the Gulf of Mexico have been on the decline in recent years, considering updated information (post 1997) if available. Clarify the comparison between shallow gas versus deep-well blowout and applicability to the proposed project.
IR-104-02	Section 8.2.2.3 Seismic Events and Tsunamis	In IR-104 the proponent was required to discuss whether long distance tsunami waves would break when they hit the shallow waters of the Grand Banks, and to discuss the effects this would have on the Project if it was to occur. The proponent has discussed the cause and frequency of tsunamis, as well as the potential effects of tsunamis. However, there is no discussion on whether the tsunami wave would break on the relatively shallow waters of the Grand Banks and how much the wave could potentially grow in height and narrow in width. Natural Resources Canada indicated that Lynett, 2011 states that tsunami wave height will increase on the shelf. In addition, measures taken to minimize the impact of a tsunami on the project infrastructure within their engineering design plans, providing references to support statement is required. Reference: Lynett, P.J. and Liu, P.L.F., 2011, Numerical Simulation of Complex Tsunami Behavior, IEEECs and AIP.	Discuss whether a tsunami wave would break on the relatively shallow waters of the Grand Banks and describe how much the wave could potentially grow in height and narrow in width. Provide a discussion on measures taken to minimize the impacts of a tsunami on the project infrastructure within engineering design plans.
IR-107 and 108		In IR- 107 and 108 the Agency required a discussion related to the potential cumulative environmental effects of artificial light from the Project on migratory birds, in particular related to the potential effect of	Provide information to support the statement related to the contribution of light from the Project to the area.

IR Number	Reference to EIS	Context and Rationale	Specific Question/ Information Requirement
		altered or disturbed migration routes. In addition, the contribution of the Project to overall amounts of artificial light required discussion. With respect to the contribution of the Project to overall light in the region, the proponent states that project lighting and flaring will represent only a 'small increase over existing levels of lighting and flaring in the study area, will be temporary and localized, and will occur by licence areas from other light sources'. However, no information provided to support the statement related to the contribution of the Project to light levels. The proponent indicated that the distance between projects operating in the Newfoundland and Labrador offshore would allow birds to pass between projects without being influenced. However, this statement is not supported in the response.	Provide information to support the statement that the distance between projects operating in the Newfoundland and Labrador offshore would allow birds to pass between projects without being influenced.