

November 6th, 2007Canada-Newfoundland and Labrador Offshore Petroleum Board
5th Floor, TD Place
140 Water Street
St. John's, NL
A1C 6H6

Ref. No.: HUS-CPB-NA-LTR-00025

Attention: Mr. John Crocker

Dear Mr. Crocker:

Re Completeness Review of Husky Tie-Back Project Development Plan Documents

In regard to your letter of September 18, 2007, please see the following responses to your requests for additional information or clarification. The C-NLOPB comment is indicated followed by Husky's response in bold text.

Canada-Newfoundland and Labrador Benefits Plan

The review of the North Amethyst Satellite Tie-Back Benefits Plan consisted of comparing whether Husky's Benefits Plan addressed the requirements as set out in the C-NLOPB Benefits Plan Guidelines. The review indicates that Husky has addressed the majority of requirements as set out in the Guidelines, however, the following items were noted and need to be addressed:

Subsection 3.5 First Consideration: Procurement

Benefits: Although this principle is addressed in Husky's Canada-Newfoundland and Labrador Benefits Guidelines located in Appendix 3 of its Benefits Plan submission, this fundamental principle should be addressed by Husky in the main body of its Benefits Plan.

Husky Response:

The following text is added to Section 5.3 (Procurement and Contracting Strategy) of the North Amethyst Satellite Benefits Plan:

"Husky fully supports the principle of Full and Fair opportunity and First Consideration for Newfoundland companies and individuals related to any procurement opportunities which may arise from the development of the North Amethyst tie-back. Husky is committed to providing first consideration to Newfoundland companies and individuals with respect to any procurement opportunities that are identified during the development and production phase of this project."

Subsection 4.4 Employment and Training

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Benefits: There is no discussion by Husky regarding its strategy for the development of a Human Resource Plan for the North Amethyst project operations phase. The operator should provide this.

Husky Response:

As stated in Section 6.2 of the Benefits Plan, employment and procurement opportunities in the production phase will be limited to incremental activities related to subsea inspection and maintenance workovers associated with wellhead equipment and subsea lines. The additional reserves from North Amethyst will be used to offset declining production from the original White Rose field and as such will not require additional personnel. Essentially, North Amethyst will allow the SeaRose to produce at peak capacity for a longer period of time thereby providing stable employment for the existing complement of offshore and onshore personnel for an additional 2 to 3 years. Based on this assessment it was felt that a separate Human Resources plan was not required for the North Amethyst Tieback Development.

Section 5.0 Assessment of the Capacity of NL and Canadian Economies to Meet Requirements of Project

Benefits: Section 5.0 of the Guidelines states "These analyses should conclude with an estimate by the proponent of the proportion of work and employment associated with the project which can be performed by businesses and workers in Canada, and in particular in Newfoundland and Labrador." While the PSN Local Fabrication Capacity and Labour Market Survey, Appendix 6, of the Benefits Plan Application provides a thorough assessment of the local fabrication and labour market capacity, the main body of Husky's Benefits Plan does not provide an estimate of the proportion of work, which can take place in Newfoundland and Labrador and Canada. Husky should provide this.

Husky Response:

The following text is added to Section 6.0 (Capacity of Newfoundland and Labrador and Canadian Economies to Meet the Requirements of the North Amethyst Satellite Tieback Development):

"An estimate of the number of hours for the individual components of the work is highlighted in Table 6.4. 100% of the Engineering and Project Management will take place in NL as well as nearly 97% of drilling and completions, 100% of logistics, 100% of FPSO modifications and 64% of the Subsea Production System.

Table 6.4 Estimated Project Person Hours Option A and Option B

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North Amethyst Tieback Estimated Project Person Hours Option A (Direct to FPSO)

Project Component	Total Employment	NL Employment	Other Canadian Employment	International Employment
Pre First Oil				
Engineering & Project Management	400,000	400,000	0	0
FPSO Modifications	80,000	80,000	0	0
Subsea Production System*	281,000	180,000	1,000	100,000
Drilling and Completions	929,000	900,000	25,000	4,000
Logistics	200,000	200,000	0	0
Glory Holes**	38,000	30,000	0	8,000
Total NADC	1,928,000	1,790,000	26,000	112,000

North Amethyst Tieback Estimated Project Person Hours Option B (Existing Drill Centre)

Project Component	Total Employment	NL Employment	Other Canadian Employment	International Employment
Pre First Oil				
Engineering & Project Management	350,000	350,000	0	0
FPSO Modifications	0	0	0	0
Subsea Production System*	281,000	180,000	1,000	100,000
Drilling and Completions	929,000	900,000	25,000	4,000
Logistics	200,000	200,000	0	0
Glory Holes**	38,000	30,000	0	8,000
Total NADC	1,798,000	1,660,000	26,000	112,000

*Breakout based on actual percentage from original WR Project (63%NL, 0.4% OC, 36.6% Foreign)

** Based on actual percentages from 2003 glory campaign (82% NL 18%For)

With respect to manufacturing and fabrication activities required as part of the project, see Husky's response to Section 5.1.1 below.

Section 5.1.1 Goods and Services

Benefits: There is a requirement for an assessment of "Canadian, and in particular, the Newfoundland and Labrador economies to participate in the project and to identify constraints to participation". Table 6-1 of Husky's Benefits Plan provides a good overview of procurement opportunities by source locations (NL, Canada, Foreign), and the PSN Survey, Appendix 6, again provides a thorough local capacity assessment. Husky does not discuss why some goods and services cannot be sourced locally or nationally. Husky should provide a discussion as to why they cannot be sourced locally or nationally.

Husky Response:

The following text is added to Section 6.1 (Subsea Construction for the North Amethyst Satellite Tieback) in the North Amethyst Benefits Plan:

"It is Husky's intention to carry out as much work as possible on the North Amethyst Tieback Development in Newfoundland and Labrador and Canada. However, a major

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portion of equipment that will be used is related to subsea components such as flexible flowlines, christmas trees and large specialized valves which are manufactured by specialized manufacturers in dedicated international facilities. The local demand both now and in the foreseeable future for this type of product is not high enough to justify the large investment required to establish a manufacturing facility in NL or in Canada. Husky has committed to provide full and fair opportunity to local companies for those components which are not required to be manufactured in specialized manufacturing facilities and will instruct the successful subsea fabrication contractor to thoroughly examine all components of the development to determine what other pieces could be done in NL as well.”

Subsection 5.1.2 Employment

Benefits: Section 5.1.2 requires that “The annual demand for labour, in person-hours and persons, for each major component of the preferred production system, should be projected by skill classification in accordance with Canada’s National Occupation Codes (NOC).” This information is not contained in the Benefits Plan and should be provided.

Husky Response:

Husky instructed PSN to revisit the capacity study and break out employment demand and supply by NOC. Refer to Attachment 1 for an Addendum outlining further details as requested.

Also, a discussion with respect to the impact of project demands on the educational infrastructure in the Province is required from Husky.

Husky Response:

The following text is added to Section 5.4 (Employment and Training) in the North Amethyst Satellite Benefits Plan:

“With respect to the educational infrastructure in the Province, Husky does not foresee any negative impact or excessive demands. The PSN study (Appendix VI and Addendum) concluded that with no other simultaneous projects taking place during the tieback development, there will be an adequate labour supply to meet project needs. Shortfalls are expected to occur in some disciplines if all of the other potential projects identified were to occur simultaneously (i.e., Hebron, Lower Churchill, Long Harbour Hydromet Plant and new oil refinery in Placentia Bay). These particular disciplines include: Mechanical, Piping, Instrumentation, HVAC, Insulators and Coatings Applicators.

Apprentice trades in mechanical, piping and instrumentation apprenticeship programs usually require a combination of over five years of work experience in the trade and some high school, college or industry courses in the related discipline to be eligible for trade certification. Various public and private institutions offer a variety of courses to support the requirements for obtaining a trade in these areas. There is no post secondary training available for insulators in the province so there would be no impact on any local training facilities if demand exceeds supply. Coatings Applicator is not an apprentice trade and training is usually arranged locally on an “as needed” basis through various private as well as public training institutes. Students receive

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certificates of competence after completion of their training. This was the case in previous offshore projects. Duration of the courses depends on the type of coatings which will be used and varies from project to project. HVAC (Sheet Metal Workers) apprenticeship training classes are available only on a demand basis either at Harding Road Campus, Academy Canada or Seal Cove Campus, College of the North Atlantic.

Given the proposed time frames associated with the other projects it is highly unlikely they will all occur simultaneously. However, Husky will closely monitor the status of these projects and develop a contingency plan to address any potential shortfalls, taking into account the capacity of local training facilities and any negative impacts that could occur.”

Husky Benefits Plan Employment

Subsection 6.1.2

Benefits: Subsection 6.1.2 contains estimates of the work hours to take place in NL (1,790,000 hours for Option A, 1,660,000 hours for Option B). These numbers are further broken down by component in Table 6-2. However, total project hours, and total project hours by component are not reported and are to be supplied by Husky.

Husky Response:

Husky is committed to carrying out as much of the project scope as possible in Newfoundland and Labrador and the numbers presented in Table 6-2 of the Benefits Plan are close to the total hours that are estimated to occur. A summary of total project hours based on work estimated to occur in other parts of Canada and internationally is shown in Table 6.4 that is presented under the response to Section 5.0 above.

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Operations and Safety, Environmental Affairs and Resource Management

General Comments – Operations & Safety

During the completeness review of the North Amethyst Development Plan, it was noted that there are a number of references to the South White Rose Extension. Any information, in this document or otherwise, which significantly affects the information and/or assumptions in the South White Rose Extension Decision 2007.02 must be addressed separately in the Development Plan. Some potential examples include:

1. Change in proposed schedule
2. Change in facility resulting in new operability concerns (e.g. subsea control of more than 33 wells)
3. Changes that impact the 3rd party risk analysis work that was conducted for the SWRX; such as any associated facility changes.

Husky Response:

The SeaRose Tie-Back Project Concept Safety Assessment (SR-HSE-RP-0003)

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(relating to the North Amethyst Development Plan and the White Rose Development Plan Amendment as it pertains to SeaRose FPSO upgrades) has been built upon the same quantitative risk analysis (QRA) model as was used previously for the South White Rose Extension CSA (SX-HSE-RP-0001).

SWRX is now presented as one component of the overall Tie-Back project scope. In effect, the SWRX CSA has been “superseded” by the Tie-Back Project CSA. The Tie-Back Project CSA shows that the effect on the Target Levels of Safety is very small for the additional Project scope. The drilling and installation schedules have been adjusted in the more recent CSA report in line with Tie-back Project schedules. The method of subsea control of the additional wells is currently being evaluated by the FEED team.

The completeness review of the Tie Back Project has identified the following clarifications/additional requirements:

Section 1.0 Overview

Env Aff: The North Amethyst Satellite Tie-back was captured within the scope of the environmental assessment "Husky White Rose Development Project: New Drill Center Construction and Operations Program Environmental Assessment Addendum" (LGL 2007). However, the NA Development Plan document (SR-SRT-RP-002) does not reference the CEA Act process or reference the EA reports completed pursuant to that process. The EA process and reports should be referred to in the Development Plan as the limits set in these documents form the "environmental envelope" in which the Development Plan must be assessed. Additional comments provided in reference to Section 5 (below)

Husky Response:

The following text is included in Section 1.0 (Project Overview) in the North Amethyst Development Plan:

“An Environmental Assessment (EA) must be completed for anything that is defined as a “project” under the *Canadian Environmental Assessment Act* (CEAA). Generally all activities related to exploration and development of petroleum resources requires an EA. The original White Rose Development underwent environmental assessment as part of the White Rose Oilfield Development Application. An Environmental Impact Statement was submitted as Volume 3 of that Development Application. The White Rose Project was approved in December 2001.

Further environmental assessment requirements under the CEA Act were identified for the proposed satellite tie-backs to the SeaRose FPSO. The EA reports completed pursuant to the CEA Act process were *Husky White Rose Development Project: New Drill Centre Construction and Operations Program Environmental Assessment* (Husky Document No. WR-HSE-RP-4003) and the *Husky White Rose Development Project: New Drill Centre Construction and Operations Program Environmental Assessment Addendum* (Husky Document No. WR-HSE-RP-0167). The environmental assessment for the tie-backs was released from the CEA Act process in April 2007.”

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Subsection 1.2.1	Development Plan
<p>Ops. & Safe: The proponent must clarify which option, "Option A" or "Option B", is the <i>'proposed method of development of the pool or field'</i> in accordance with this section of the guideline.</p> <p>Husky Response:</p> <p>At this time Option B is considered the proposed method of development for the North Amethyst field. Husky is planning to develop North Amethyst through the Southern Drill Centre for first oil in 2009.</p> <p>Env. Aff: There is an Environmental Protection Plan (EPP) currently in use with respect to the operation of the SeaRose FPSO. There is also an EPP in use with respect to drilling operations using the GSF Grand Banks. The development of North Amethyst will require significant additional drilling activity. The Development Plan should discuss any requirements for review/updating/revision of the drilling EPP.</p> <p>Husky Response:</p> <p>The following text is added to Section 5.3 (Environmental Criteria) in the North Amethyst Development Plan:</p> <p>“Husky has Environmental Protection Plans (EPPs) currently in use for ongoing operations on the SeaRose FPSO and for drilling operations on board the MODU. Prior to commencement of drilling, Husky’s EPPs will be reviewed to determine if any updates or revisions are required due to the additional drilling for development of North Amethyst.”</p>	
Subsection 2.1	Typical Summary
<p>Env. Aff: There is an existing CEAA Environmental Assessment for the development of this satellite field, which should address all aspects as listed. (See comments with respect to the Safety Plan and Concept Safety Analysis below). There are Environmental Protection Plans (EPPs) currently in use with respect to both drilling and production. The Development Plan should discuss any requirements for review, updating or revision of the drilling EPP.</p> <p>Husky Response:</p> <p>Refer to Response to Subsection 1.2.1 above.</p>	
Subsection 3.1	Project Overview
<p>Ops. & Safe: There is a high-level schedule for FPSO modification, but only one decision point is shown (project sanction). The proponent should provide schedule that shows key events and decision points for the design, procurement, and construction stages of all major elements of the project.</p> <p>Husky Response:</p> <p>Figure 1.3 in the North Amethyst Development Plan indicates timelines for design (engineering to support construction), procurement and construction (drilling and</p>	

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completions, construction/ship yard scope), planned turnaround and first oil window. These are the key events that, following sanction, will progress accordingly. Sanction is a critical decision point for Husky from which detailed design, procurement and construction will flow. None of these activities will occur prior to sanction by Husky and its partners. As the project progresses and schedules are further refined, the C-NLOPB will be notified of the execution timeline for these activities. As noted above, Husky now plans to develop North Amethyst through the Southern Drill Centre with first oil in late 2009. The FPSO will not be taken off station as part of the North Amethyst tie-back and as such the topsides modifications are outside the scope of the North Amethyst Development Plan. See Attachment 2 for a revised schedule for development of North Amethyst.

Res. Mgmt: A schedule should be provided with North Amethyst in relation to the other potential developments. This needs to be put in relation to White Rose Extension, West White Rose and North White Rose pool.

Husky Response:

Refer to Attachment 2 for a schedule showing development of North Amethyst in relation to South White Rose Extension and West White Rose Extension. Development of the North White Rose pool is not yet scheduled. Note also that the submission date for regulatory application for West White Rose Extension is highly dependant on the results of further delineation drilling in the West pool.

Subsection 3.2 Geology and Geophysics

Res. Mgmt: The maps and cross sections presented in this section are too small to be useful. They need to be resubmitted in larger size (i.e. 1:50,000 scale).

Husky Response:

Plots have been revised to 1:50,000 as requested and are provided in Attachment 3.

Subsection 3.4 Reservoir Engineering

Res. Mgmt: Viscosity and compressibility of the formation water and proposed seawater for injection should be provided.

Husky Response:

The following text is added to Section 3.3 (Reservoir Simulation) in the North Amethyst Development Plan:

“For Sample # 1682 MPSR:

Viscosity (calculated) at reservoir conditions (23,860 kPa and 88 degrees C) = 0.3667 cP

For sample # 2535 MPSR:

Viscosity (calculated) at reservoir conditions (23,860 kPa and 88 degrees C) = 0.3664 cP

The following is a summary of the inputs in relation to the North Amethyst

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reservoir model:

- Viscosity = 0.36 cp
- Compressibility = 2.89E-05 vol/vol/bar
- Formation volume factor = 1.0359 rm³/sm³
- Density = 1030.7 kg/m³

Wax deposition and scaling concerns should be addressed as whether it is an issue here at North Amethyst.

Husky Response:

This information will not be available until Qtr 2 2008.

Table 3-8 should list the gas sample from one of the producing wells in the South Avalon field.

Husky Response:

The following text is added to Section 3.1.2 (Fluid Characterization) in the North Amethyst Development Plan:

“The following table highlights the composition that is representative of the current gas injected and notes a sample analysis of one specific White Rose South Avalon producer (E-18 4 / CP1).

South Avalon Gas Sample Composition		
Component	Measured Mole % (Representative injected gas)	CP1 Gas Mole % (Individual Well Test Separator Sample)
Nitrogen	0.26	0.27
Carbon Dioxide	1.85	2.08
Hydrogen Sulfide	0.00	0.00
Methane	85.88	84.39
Ethane	5.88	6.17
Propane	3.45	3.62
i-Butane	0.48	0.53
n-Butane	1.15	1.31
i-Pentane	0.27	0.32
n-Pentane	0.34	0.44
Hexane plus	0.44	0.87
Total	100.00	100.00

Special Core Analysis – A list of special core analysis conducted in the South Avalon pool and area. A summary table of the results of the studies should be provided.

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Husky Response:

The following text is added to Section 3.1.5 (Special Core Analysis) of the North Amethyst Development Plan:

“Special Core Analysis (SCAL) was completed on L-08 and A-17. The following tables summarize the results of this analysis:

A-17 Special Core Analysis:

Sample #	Routine Air	Routine Porosity		Water Data					Gasflood Data				
	Perm (mD)	(%)	Swi (%)	Crossover Sw (%)	Sor (%)	Ko @ Swi	Kw @ Sor	Max Krw	Swi (%)	Sor (%)	Ko @ Swi	Kg @ Sor	Max Krg
Stack #5	48	13.65	19	57	29.8	32.42	3.04	0.09	19	23.3	32.9	14.48	0.30
Stack #6	67	15.58	19	53	22.2	47.49	5.96	0.13	19	21.9	47.3	23.76	0.35
FD#1	114	18.4	19	59	29.1	48.1	5.72	0.12	19	35	47.16	20.02	0.18
FD#2	198	19.1	19	64	28.6	96.6	6.77	0.07	19	28	97.2	38.7	0.20
FD#3	201	19.5	19	60	31.1	143.3	11.68	0.08	19	23.4	137.62	73.32	0.36

L-08 Special Core Analysis:

Sample #	Routine Air	Routine Porosity		Water Data					Gasflood Data				
	Perm (mD)	(%)	Swi (%)	Crossover Sw (%)	Sor (%)	Ko @ Swi	Kw @ Sor	Max Krw	Swi (%)	Sor (%)	Ko @ Swi	Kg @ Sor	Max Krg
Stack #4	48	14.2	19	62	21.7	32.68	6.15	0.19	19	29.3	33.46	14.83	0.31
Stack #3	52	15.13	19	65	20.2	35.93	6.81	0.19	19	28.8	35.14	15.45	0.30
Stack #2 High Rate	120	18.8	19	59	26.8	89.6	26.3	0.29	19	40	89.2	36.6	0.31
Stack #2 Low Rate	120	18.8	19	56	25.6	93.1	21.3	0.23	19	40.9	93.27	21.46	0.02
Stack #1 High Rate	100	18.3	19	51	24.8	88.9	19.9	0.29	19	36.9	89.24	28.65	0.29
Stack #1 Low Rate	100	18.3	19	56	27.7	88.4	16.2	0.24	19	36.8	87.75	8.22	0.08
FD#3	12	17.8	19	58	32.5	8.5	3.5	0.4	19	39.2	8.5	2.95	0.25
FD#2	45.8	18.4	19	53	38.9	29.5	2.8	0.09	19	37.9	29.9	13.2	0.29
FD#1	129	18.5	19	58	25.2	87.1	18.1	0.2	19	33.2	87.94	17.54	0.14

Injection of seawater is proposed and details of its composition should be provided. A description of any tests that were done in the South Avalon pool in terms of injectivity and compatibility should be noted here.

Husky Response:

The following text is added to Section 3.2 (Development Strategy) in the North Amethyst Development Plan:

The following table details the injection seawater composition:

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Seawater Properties	
Chemical Component	Quantity
Density at 15.4°C	1,024 Kg/m ³
Na	9,772 mg/L
K	351 mg/L
Ca	438 mg/L
Mg	1,167 mg/L
Cl	17,498 mg/L
HCO ₃	128 mg/L
SO ₄	1,922 mg/L

Reference: White Rose DA Volume 2 (Development Plan) • January 2001

The following table details the injectivity of the current South Avalon water injection wells:

Injectivity Index with Reservoir Pressures calculated from Fall-offs										
Well	Date	Inj Rate (m ³ /hr)	Inj Rate (m ³ /d)	BH Inj Gauge P (kPa)	Gauge Depth m TVDss	Resv P (kPa)	Delta P (kPa)	Inj Index (m ³ /d/kPa)	Inj Index (m ³ /d/bar)	
SW1	B-07 1	29-Jun-07	116	2795	9211		31218	6043	0.46	46
SW2	B-07 8	18-Jul-07	229	5494	38867	2897.7	32519	6348	0.87	87
SW3 (toe)	B-07 9	19-Jul-07	67	1602	38988	2881.9	32565	6423	0.25	25
SW3 (heel)	B-07 9	19-Jul-07	150	3595	39373	2881.9	32565	6808	0.53	53
SW4	B-07 4	19-Jul-07	112	2677	34790	2815.2	30889	3901	0.69	69
SW6	B-07 6	18-Jul-07	172	4132	42802	2870.9	32394	10408	0.40	40
CW2	E-18 1	10-Jul-07	181	4344	23307	2919.6	38339	13018	0.33	33
CW3 (toe)	E-18 5	25-Jul-07	143	3431	52570	2940.7	38293	14277	0.24	24
CW3 (heel)	E-18 5	7-Jul-07	0	0	38691	2940.7	38293	398	0.00	0
CW4 (toe)	E-18 3	20-Jul-07	156	3735	48997	2931.5	33246	15751	0.24	24
CW4 (heel)	E-18 3	20-Jul-07	127	3048	51916	2931.5	33246	18670	0.16	16
CW5 (toe)	E 18 7	29-Jul-07	134	3220	44241	2841.0	32271	14731	0.22	22
CW5 (heel)	E 18 7	29-Jul-07	94	2255	46040	2841.0	32271	16530	0.14	14

Subsection 3.5 Reserve Estimates

Res. Mgmt: Large size maps need to be included in the document.

Husky Response:

See Response to Subsection 3.2 above.

Economic cut-off criteria for estimating reserves should be clearly stated.

Husky Response:

It is Husky's opinion that the economic cut-off criteria for estimating reserves are not factors relevant to decisions by the C-NLOPB under the Accord Acts, and,

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therefore, are not required by the C-NLOPB as part of the Development Application process.

For the North Amethyst field the range of the recoverable reserve estimates should be listed.

Husky Response:

The following text is added to Section 4.6 (Reserve Estimates) in the North Amethyst Development Plan:

“The anticipated recoverable oil from the North Amethyst field is approximately 11 million Sm³ (70 million bbls). This volume corresponds to a 27% recovery factor of the P50 original oil in place of 41 million Sm³ (256 million bbls).

The range of recoverable oil is as follows:

- P90 Reserve Estimate: 50 MMbbls.
- P50 Reserve Estimate: 70 MMbbls
- P10 Reserve Estimate: 92 MMbbls”

For the North Amethyst field, the expected recovery efficiencies should be listed.

Husky Response:

The following text is added to Section 4.6 (Reserve Estimates) in the North Amethyst Development Plan:

“The most likely recovery factor, which is currently used, is 27% which equates to approximately 70 MMBbl (11 e 6 m³) of recoverable oil in the North Amethyst field.

The range of recoverable oil and recovery factors is as follows:

- P90 Reserve Estimate: 50 MMbbls, Recovery Factor of 15%
- P50 Reserve Estimate: 70 MMbbls, Recovery Factor of 27%
- P10 Reserve Estimate: 92 MMbbls, Recovery Factor of 40%”

An assessment of the impact of alternative production systems on reserves should be provided.

Husky Response:

Husky will not be conducting this assessment because the alternatives are not economically viable.

Subsection 3.6 Reservoir Exploitation

Env. Aff: SR-SRT-RP-007, p9, states, "The depletion plan for the North Amethyst field includes secondary recovery by water flood. Seawater will be injected from the SeaRose FPSO and will be sourced and treated in the same manner as water that is currently being injected into the South Avalon pool." No cuttings reinjection or produced water reinjection appears to be contemplated here. The feasibility of cuttings reinjection and produced water reinjection should be considered. This is also necessary to remain

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consistent with the White Rose Development Plan and conditions of approval.

Husky Response:

Condition 37 of the White Rose Decision Report (2001.01) requires Husky to undertake an analysis of the feasibility of produced water re-injection, following recovery of sufficient volumes of produced water to permit such analysis. Husky is currently undertaking that analysis.

Husky has reviewed the White Rose cuttings re-injection feasibility analysis to determine whether its conclusions still apply to North Amethyst. In light of the fact that the proposed North Amethyst development is a subsea tie-back to an FPSO in the same manner as the White Rose development and is based on the same subsea well design, the conclusions drawn from the report on the feasibility of re-injecting drill cuttings remain valid for North Amethyst.

SR-SRT-RP-0003 describes modifications to the SeaRose to accommodate an increase in produced water to a maximum of 31,000m³/day. However, the Development Plan (SR-SRT-RP-007) indicates that production water will not exceed current FPSO capability of 28,000 m³/day. The discrepancy between the need to increase produced water handling capability to 31,000 and the NA satellite development requirements of 28,000 should be clarified.

Husky Response:

Husky confirms that the North Amethyst Development Plan (SR-SRT-RP-007) indicating that the produced water will not exceed the currently installed capacity of 28,000 m³/day is correct. The produced water increase to 31,000 m³/day will only be implemented at some future date should additional tie-back requirements warrant such an increase.

The amount of gas to be flared or used as fuel may need to be reviewed in terms of the flaring limits set by the C-NLOPB, the greenhouse gas plan submitted to the C-NLOPB by Husky, and new federal legislation/regulation. Husky should indicate in their Development Plan that they plan to address this issue.

Husky Response:

The following text is added to Section 5.3 (Environmental Criteria) in the North Amethyst Development Plan:

“The development of North Amethyst is not anticipated to result in an increase in the amount of flaring. Flaring should remain in line with quarterly limits set regularly by the CNLOPB and applied for under the flaring strategy. As a result of the fact that there are no anticipated changes in the flaring amounts, the SeaRose FPSO design specifications related to greenhouse gas emissions should not need to be revised. However, Husky, under its management system, is monitoring progress with Canada’s new Air Action Plan. Once regulations under this Plan are finalized (scheduled for March 2008), Husky will review the implications for the

North Amethyst Satellite Tie-Back

entire White Rose operation including the North Amethyst tie-back.”

Res. Mgmt: The rationale for choosing waterflooding over gasflooding as the preferred secondary recovery mechanism is not discussed. The explanation, supported by simulation runs, should contain results, which explain how the comparison of the two strategies was assessed.

Husky Response:

A gasflood sensitivity using four horizontal producers and three gas injectors was used in the simulation model. The supporting Eclipse model files are provided on the DVD (titled Additional Subsurface Information) accompanying this document.

A recovery factor for the gasflood scenario considered for the North Amethyst field was 9.8%. The recovery factor in the water flood scenario is approximately 27%. The increased recovery factor, in consideration of the current FPSO system design, identified water flooding as the preferred secondary recovery method.

Sensitivities to the number of wells, types of wells, well layouts, injectors, number of injectors, flood pattern should be listed and results noted. The Proponent has presented a base case, which is based on the review of these sensitivities.

Husky Response:

This information will not be available until well planning is completed in Qtr 1 or 2 2008.

A discussion of artificial lift requirements is required.

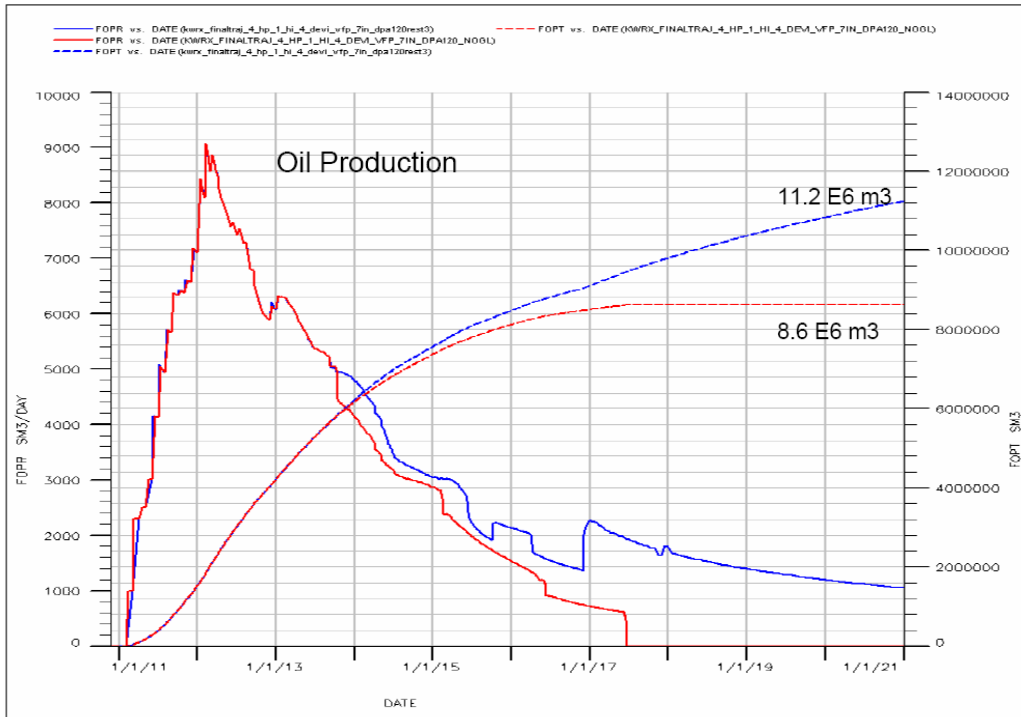
Husky Response:

The following text is added to Section 3.2 (Development Strategy) in the North Amethyst Development Plan:

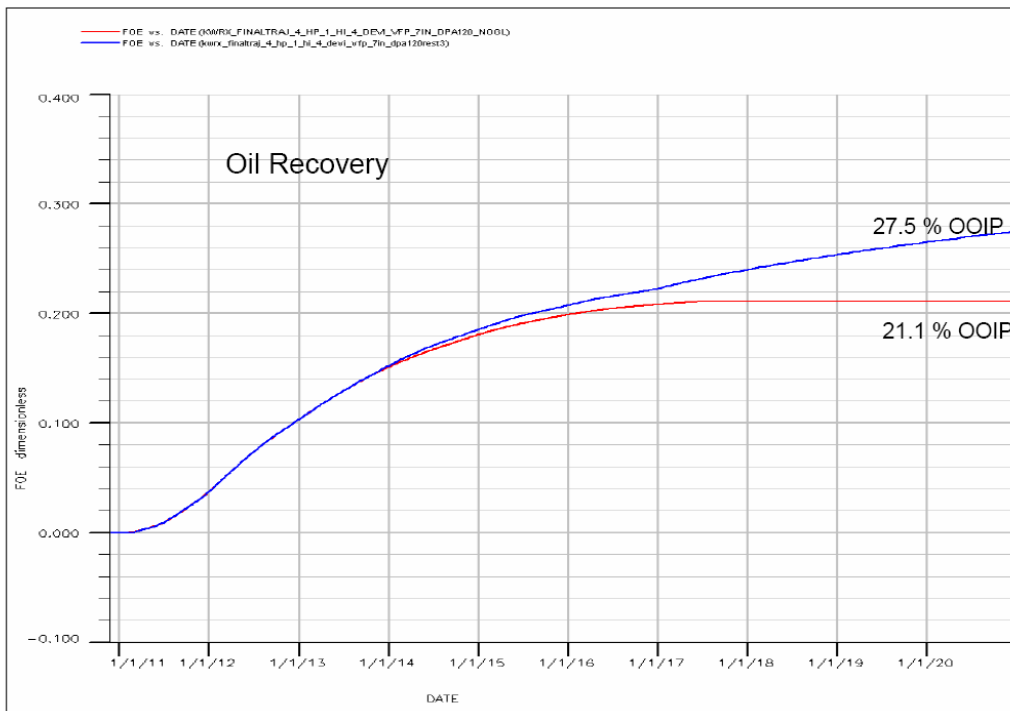
“Gas lift is planned for use in the North Amethyst field similar to the development of the South Avalon production wells. The following plots present the North Amethyst production profile and recovery factor with and without gas lift. Note that the red curves relate to the no gas lift case and dashed lines are typical cumulatives for the one 120,000 bbl/d deterministic case.

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DPA Comparison With No Gas Lift



DPA Comparison With No Gas Lift



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A description of future well workovers and estimate of frequency should be noted.

Husky Response:

The following text is added to Section 3.2 (Development Strategy) in the North Amethyst Development Plan:

“Although the North Amethyst field design continues, the intention is that the subsea and well completion systems will be designed in a manner consistent with the White Rose Development design and will allow for workover operations where deemed required by Husky. Although systems will be designed to facilitate workovers, it is an objective of the completion design to reduce the number of major workovers during life of field conditions for wells. As such, workover frequency has only been considered in terms of economic analysis at this time. As further detailed field design is completed, additional information will be available. However, the intention is to plan towards zero workovers.”

Lessons learned from the development scenario of South Avalon pool should be noted as well as new technologies such as multilaterals, or horizontal water injectors if they have been considered.

Husky Response:

The following text is added to Section 3.2 (Development Strategy) in the North Amethyst Development Plan:

“The North Amethyst field development will build upon learnings from the South Avalon pool development. North Amethyst will be developed with horizontal oil producers. North Amethyst water injectors may be deviated and/or horizontal. Further optimization and well design work continues to be conducted and, as such, well counts and well plans are still to be finalized.”

An assessment of retrograde condensation and the possible need for gas cycling should be discussed.

Husky Response:

Gas flooding will not be conducted within the North Amethyst field. Gas flooding has lower recovery than water flooding. Gas cycling is not possible without gas flooding. Water injection will be utilized to maintain voidage in the North Amethyst field. Water injection will maintain reservoir pressure and minimize gas cap production and retrograde condensate behavior.

A discussion of how economic recovery of oil and gas will be maximized over the life of the field.

Husky Response:

The following text is added to Section 3.2 (Development Strategy) in the North

North Amethyst Satellite Tie-Back**Amethyst Development Plan:**

“The economic recovery for North Amethyst is being maximized over the life of the field through the initial field development planning. Water injection is being utilized as the secondary recovery mechanism and will maintain voidage. Gas lift is planned for installation in the production wells to provide a means of artificial lift and assist with maximizing production rates with increasing water cut.”

Gas Conservation Methods – What will be the amount of produced gas expressed as flare, injection and fuel? This should be provided from the North Amethyst field as well as the total project. This should be provided in tabular and graphic format.

Husky Response:

The following text is added to Section 3.3 (Reservoir Simulation) in the North Amethyst Development Plan:

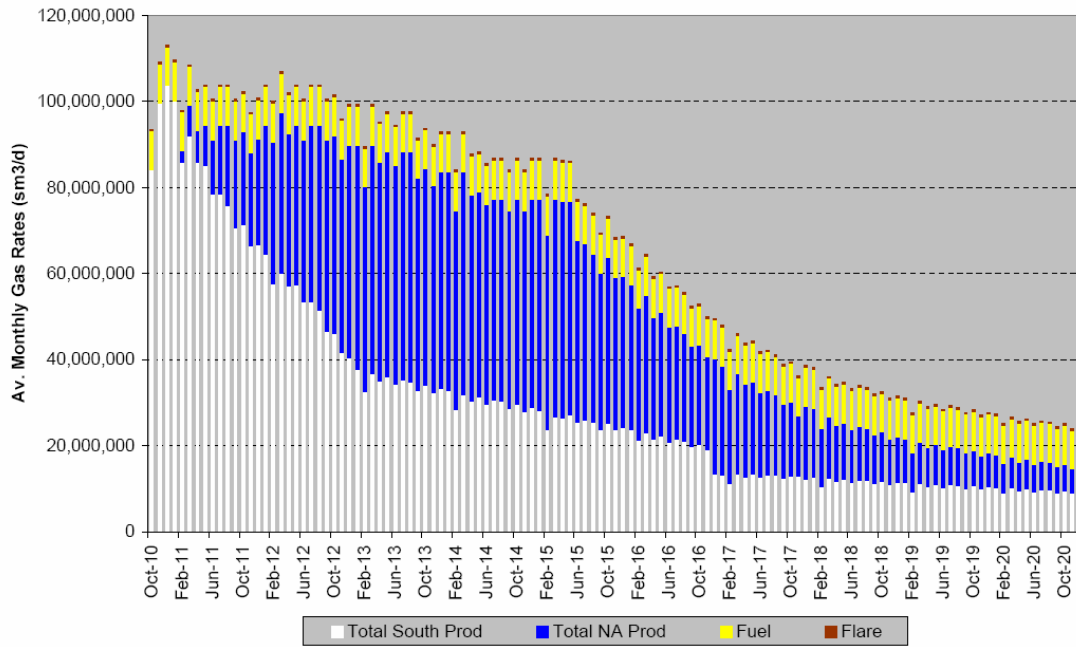
“The following figure and associated table is based upon the proposed combined North Amethyst and South Avalon Base Case Production Profile which shows North Amethyst tied back in 2010.

This base case North Amethyst simulation model was run together with South Avalon production and assumes an annualized production rate of 120,000 bopd (barrels of oil per calendar day). The assumptions used in conducting the base case North Amethyst simulation model are detailed in Section 3.3.2. It should also be noted that any change to these assumptions will impact the results presented in this section.

An assumed value for flare gas and background flare gas was considered. The profile was analyzed based on assumed fuel of 300,000 sm³/day and flare of 15,000 sm³/day included from 2010 onwards for North Amethyst and South Avalon. Note for this scenario, the fuel and flare volumes displayed have been subtracted off the South Avalon predicted monthly value. Based on this, the South Avalon and North Amethyst gas values are referred to as "allocated" within the table.

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Produced Gas Expressed as Flare, Injection and Fuel for North Amethyst Field and South Avalon Fields



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Produced Gas Expressed as Flare, Injection and Fuel for North Amethyst Field and South Avalon Fields				
Months	Allocated NA Prod (sm3/month)	Allocated South Avalon Prod (sm3/month)	Flare (sm3/month)	Fuel (sm3/month)
Oct-10	0	84088980	450000	9000000
Nov-10	0	99597180	450000	9000000
Dec-10	0	103682590	450000	9000000
Jan-11	0	100168080	450000	9000000
Feb-11	2801450.32	85748550	450000	9000000
Mar-11	7166710.38	91883290	450000	9000000
Apr-11	7572759.3	85727240	450000	9000000
May-11	9380240	85019760	450000	9000000
Jun-11	12492969	78557030	450000	9000000
Jul-11	15948090	78451910	450000	9000000
Aug-11	18571759	75828240	450000	9000000
Sep-11	20392102	70657900	450000	9000000
Oct-11	21377426	71472570	450000	9000000
Nov-11	21526242	66523760	450000	9000000
Dec-11	24518700	66781300	450000	9000000
Jan-12	29996188	64403810	450000	9000000
Feb-12	32967316	57632680	450000	9000000
Mar-12	37397932	60102070	450000	9000000
Apr-12	35534856	57015140	450000	9000000
May-12	37062104	57337900	450000	9000000
Jun-12	37697822	53352170	450000	9000000
Jul-12	40932790	53467210	450000	9000000
Aug-12	42888270	51511730	450000	9000000
Sep-12	44580488	46469520	450000	9000000
Oct-12	45952056	46122950	450000	9000000
Nov-12	44826420	41723590	450000	9000000
Dec-12	49261140	40488850	450000	9000000
Jan-13	52006600	37743390	450000	9000000
Feb-13	47551090	32598920	450000	9000000
Mar-13	53024940	36725060	450000	9000000
Apr-13	50794230	35005760	450000	9000000
May-13	52087780	36112230	450000	9000000
Jun-13	50786060	34263940	450000	9000000
Jul-13	52931220	35268780	450000	9000000
Aug-13	53427670	34772310	450000	9000000
Sep-13	49209230	32840780	450000	9000000
Oct-13	50243360	34081680	450000	9000000
Nov-13	48295120	32254860	450000	9000000
Dec-13	50351500	33198470	450000	9000000
Jan-14	50807740	32742290	450000	9000000
Feb-14	46243330	28306650	450000	9000000
Mar-14	51653240	31896730	450000	9000000
Apr-14	47898560	30401450	450000	9000000
May-14	47550790	31349240	450000	9000000
Jun-14	46359840	29690170	450000	9000000
Jul-14	46713470	30636520	450000	9000000
Aug-14	47067720	30282290	450000	9000000
Sep-14	45861940	28688060	450000	9000000
Oct-14	47734960	29615030	450000	9000000
Nov-14	46558290	27991710	450000	9000000
Dec-14	48586680	28763340	450000	9000000
Jan-15	49307440	28042510	450000	9000000
Feb-15	45202460	23747600	450000	9000000
Mar-15	50737760	26612210	450000	9000000
Apr-15	50339030	26460940	450000	9000000
May-15	49634410	27095800	450000	9000000
Jun-15	42376250	25399020	450000	9000000
Jul-15	40949330	25939330	450000	9000000
Aug-15	39130900	25383700	450000	9000000
Sep-15	36278430	23767450	450000	9000000
Oct-15	38663450	25099760	450000	9000000
Nov-15	35386030	23586290	450000	9000000
Dec-15	35002310	24202780	450000	9000000

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Jan-16	33728890	23733630	450000	9000000
Feb-16	30669050	21175670	450000	9000000
Mar-16	32046820	22871040	450000	9000000
Apr-16	28179480	21579510	450000	9000000
May-16	28763950	22165330	450000	9000000
Jun-16	26722650	20817660	450000	9000000
Jul-16	26299070	21435160	450000	9000000
Aug-16	25125870	21033870	450000	9000000
Sep-16	23304690	19717800	450000	9000000
Oct-16	23078550	20344310	450000	9000000
Nov-16	21498860	19052690	450000	9000000
Dec-16	26705200	13425810	450000	9000000
Jan-17	25313350	13255000	450000	9000000
Feb-17	21788300	11152880	450000	9000000
Mar-17	23269480	13404880	450000	9000000
Apr-17	21628810	12661550	450000	9000000
May-17	21456590	13376000	450000	9000000
Jun-17	19772700	12560040	450000	9000000
Jul-17	19532060	13243070	450000	9000000
Aug-17	18568880	13147720	450000	9000000
Sep-17	17211610	12336030	450000	9000000
Oct-17	17096710	12974140	450000	9000000
Nov-17	13898040	12884720	450000	9000000
Dec-17	17114100	12081730	450000	9000000
Jan-18	15952110	12689990	450000	9000000
Feb-18	13553300	10458360	450000	9000000
Mar-18	14168950	12494390	450000	9000000
Apr-18	13064540	11676820	450000	9000000
May-18	13027250	12275530	450000	9000000
Jun-18	12304590	11482190	450000	9000000
Jul-18	12425970	12053350	450000	9000000
Aug-18	12107770	11933130	450000	9000000
Sep-18	11395920	11140800	450000	9000000
Oct-18	11369220	11727320	450000	9000000
Nov-18	10604480	10945000	450000	9000000
Dec-18	10548760	11514820	450000	9000000
Jan-19	10189170	11421820	450000	9000000
Feb-19	8915330	9310810	450000	9000000
Mar-19	9618460	11229750	450000	9000000
Apr-19	9110460	10465250	450000	9000000
May-19	9209920	11004980	450000	9000000
Jun-19	8757680	10248450	450000	9000000
Jul-19	8942670	10852960	450000	9000000
Aug-19	8759000	10742300	450000	9000000
Sep-19	8281380	9995550	450000	9000000
Oct-19	8345220	10556230	450000	9000000
Nov-19	7867480	9824650	450000	9000000
Dec-19	7914100	10390020	450000	9000000
Jan-20	7615180	10295640	450000	9000000
Feb-20	6832770	8938420	450000	9000000
Mar-20	7093590	10127150	450000	9000000
Apr-20	6717620	9431570	450000	9000000
May-20	6792060	9983830	450000	9000000
Jun-20	6434850	9274770	450000	9000000
Jul-20	6507040	9815810	450000	9000000
Aug-20	6355650	9726840	450000	9000000
Sep-20	6000800	9026270	450000	9000000
Oct-20	6032130	9564100	450000	9000000
Nov-20	5665400	8865280	450000	9000000
Dec-20	5659180	9364170	450000	9000000

A discussion of the rationale for data acquisition program in the North Amethyst field should be discussed.

Husky Response:

The data acquisition program will not be completed until Qtr 2 2008.

Forecasts or production downsides, most likely and upside should be provided.

Husky Response:

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Refer to response in Section 3.5 above.

Reservoir simulation model results from

- 1) Gas floor reservoir simulation, and
- 2) the production rate increase simulation to 140,000 bbls/d should be provided with production profiles and plots

Husky Response:

The attached DVD titled **Additional Subsurface Information** provides reservoir simulation model results for gas flood reservoir.

The production rate increase simulation to 140,000 bopd is included on the attached DVD (titled **Simulation to 140,000 bopd**). Rate sensitivity was conducted based on an average annualized oil production rate of 140,000 bopd from the combined North Amethyst and South Avalon production. There is very little difference between the ultimate recovery for the 120,000 bopd and 140,000 bopd simulation runs.

A plot showing the predicted average reservoir pressure in the North Amethyst and North Avalon pools from the base case simulation.

Husky Response:

The following plot details the average reservoir pressure in the North Amethyst field based on the 120,000 bbl/d case as presented within the application.

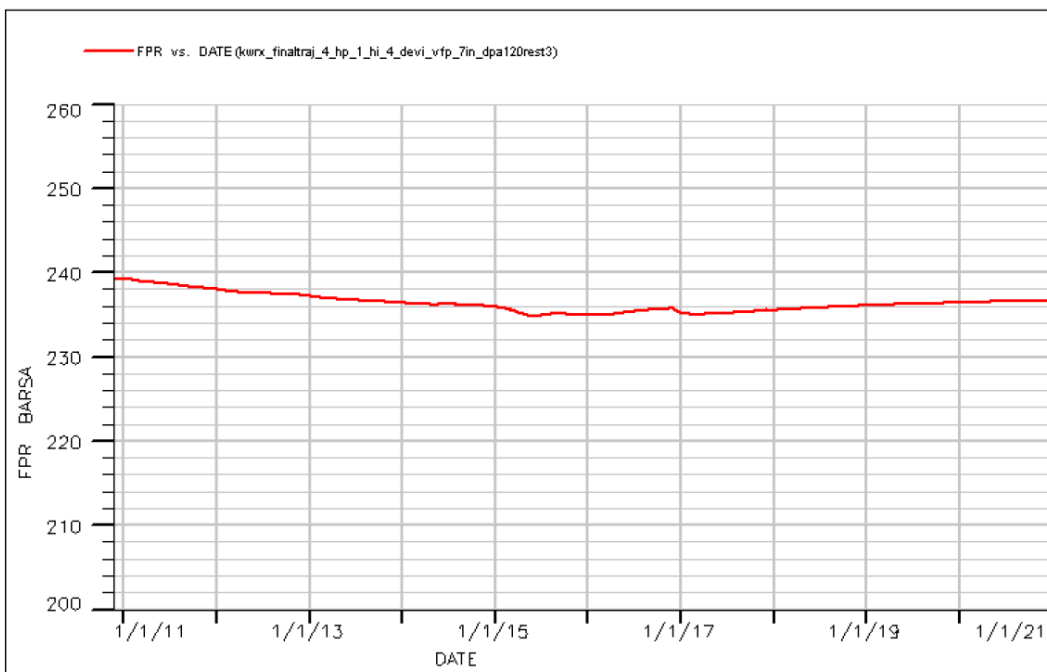


Table 3.14 should have the average production rate from North Amethyst provided in

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table format.

Husky Response:

Year	North Amethyst Average Daily Production Rate (Sm ³ /d)
	KWRX (SM ³ /d)
2005	0
2006	0
2007	0
2008	0
2009	0
2010	0
2011	4,175
2012	7,367
2013	5,487
2014	3,711
2015	2,485
2016	1,704
2017	1,931
2018	1,525
2019	1,286
2020	1,113

Subsection 3.6.1 Deferred Development

Res. Mgmt: Husky's Development Plan discusses two options for tie-in North Amethyst to the FPSO Sea Rose. The reservoir simulation the Proponent discusses in their Development Plan deals only with the option of North Amethyst tying in directly to the FPSO. This did not provide any details on the second option of tying North Amethyst in through the existing Central or Southern Glory Holes.

In order to properly assess the different tie-in options, details on simulation performed, assuming the 2nd option is the method chosen for tying in North Amethyst, should be provided.

Husky Response:

In order to assess the different tie-in options, flow assurance work must be completed. Flow assurance work will not be completed until late Qtr 1 2008.

Subsection 3.7 Development Drilling and Completions

Env. Aff: SR-SRT-RP-002, p154, notes, "synthetic-based muds will be used." If water-based muds are not contemplated, technical justification for the use of SBM should be presented/discussed in the Development Plan.

Husky Response:

The following text is added to Section 8.3 (Drilling and Completions) in the North

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Amethyst Development Plan:	
<p>“The drilling fluids used will be optimized to reduce fluid loss, control rheology, and maintain wellbore stability. The drilling fluid program will be similar to that used on White Rose wells. Seawater with Guar gum sweeps will be used during open-hole riserless drilling to the surface casing setting depth. A viscosified sodium chloride brine (kill fluid) will be used to displace the well at total hole section depth prior to casing operations.</p> <p>A synthetic-based mud system will be used for the intermediate and production hole sections for North Amethyst development drilling because the well profiles contain highly deviated and horizontal sections. Synthetic-based mud is the most reliable method to manage hole stability, facilitate wellbore evaluation, and provide lubrication to lower drilling string torque and drag. Water-based mud systems will be continued to be used when the well bore stability will not be compromised.”</p> <p>In general, operators planning the use of synthetic-based muds should examine and report upon the technical and economic feasibility of re-injecting the associated drill solids into subsurface formations as part of the Development Plan Application. Husky should review the existing White Rose cuttings reinjection feasibility analysis to determine whether its conclusions still apply for North Amethyst and report on this in the Development Plan.</p>	
Husky Response:	
<p>Husky has reviewed the White Rose cuttings re-injection feasibility analysis to determine whether its conclusions still apply to North Amethyst. In light of the fact that the proposed North Amethyst development is a subsea tie-back to an FPSO in the same manner as the White Rose development and is based on the same subsea well design, the conclusions drawn from the report on the feasibility of re-injecting drill cuttings remain valid for North Amethyst.</p>	
Subsection 3.8.1	Physical Environmental Criteria
<p>Ops. & Safe: It is the proponent's intention to rely on environmental design criteria from the original White Rose Development. The proponent should comment on any more current environmental data available to confirm this is acceptable.</p>	
Husky Response:	
<p>Husky intends to utilize the design environmental criteria developed for the original development that were based on analysis of the AES 40 database. Husky is aware of the recent extension of this database to include environmental data collated through 2004 and is currently assessing its influence on the project design environmental criteria.</p>	
Subsection 3.9	Production and Export Systems
<p>Env. Aff: Discussion is contained in SR-SRT-RP-007 and SR-SRT-RP-002. The discussion of criteria/drivers related to differentiation in possible alternatives related mostly to cost and timing concerns. There should be some discussion of the relative environmental risks in relation to the selection process.</p>	

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Husky Response:

Options A and B are both subsea tie-backs to the existing *SeaRose FPSO*. For both options subsea wells and wellhead equipment will be placed in glory holes for protection from icebergs and all subsea systems will be designed to be fail-safe. As well, any control system damage which endangers the safe operation of the subsea facilities will trigger an automatic system shutdown. Flowlines will also employ weak link technology. The only aspect of the option selection process that remains to be finalized is the configuration of the flowlines. In light of this, the relative environmental risks associated with each option are considered to be the same.

Subsection 3.9.3 Subsea Production System

Ops. & Safe: The Proponent should comment on spare capacity in the subsea system for additional tie-ins and identify any spare capacity designed into the system.

Husky Response:

The following text is added to Section 8.2 (Subsea Equipment Installation) in the North Amethyst Development Plan:

“The North Amethyst drill centre will have 16 wells slots (two interconnected manifold module support frames with capacity for 8 well slots each) which exceeds the capacity required to develop the North Amethyst field. The additional wells slots will be available for future expansions if required. In addition, the North Amethyst drill centre will include additional flexibility, via removable pigging loops, to allow further subsea tiebacks to be connected in series should future discoveries warrant additional infrastructure.”

Env. Aff: There is little to no discussion of features incorporated in the system to minimize the risk of oil leaks and spills. This should be discussed.

Husky Response:

The following text is added to Section 8.2 (Subsea Equipment Installation) in the North Amethyst Development Plan:

“In addition to use of glory holes and weak link technology for protection from icebergs, other features incorporated into the subsea production facilities to minimize the risk of oil leaks and spills include

- all subsea systems designed to be fail-safe (that is, all hydraulically operated isolation valves will automatically close if hydraulic power is lost); and
- any abnormal operating conditions resulting from control system damage, which endangers the safe operation of the subsea facilities, will trigger an automatic system shutdown.”

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Subsection 3.10 Construction and Installation

Env. Aff: These issues should have been addressed in the CEAA Environmental Assessment. Any mitigations in that document should be carried forward to the Development Plan and subsequent work documents.

Husky Response:

The following text is added to Section 8.0 (Construction and Installation) in the North Amethyst Development Plan:

“Mitigative measures that will be employed during construction and installation activities include:

- recycling of drilling muds;
- chemical selection criteria as part of Chemical Management System;
- source level selection, ramp up, and temporal avoidance of sensitive periods when conducting VSP surveys;
- communications plan and information exchange with fishers;
- release of seabirds stranded on installations;
- avoidance of breeding seabird colonies by vessels and helicopters;
- support vessels avoid sea turtles and concentrations of marine mammals and maintain steady course and speed;
- oil spill contingency planning and response procedures and personnel training; and
- oil spill response equipment on site.

These mitigations are incorporated into Husky’s activity-specific Environmental Protection Plans, and are a fundamental component of Husky’s Operations Integrity Management System.”

The following text is added to Section 9.0 (Operations and Maintenance) in the North Amethyst Development Plan:

“Mitigative measures that will be employed during operation and maintenance activities include:

- chemical selection criteria as part of Chemical Management System;
- treatment of produced water, deck drainage, bilge water and sanitary/domestic waste;
- communications plan and information exchange with fishers;
- release of seabirds stranded on installations;
- avoidance of breeding seabird colonies by vessels and helicopters;
- support vessels avoid sea turtles and concentrations of marine mammals and maintain steady course and speed;

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<ul style="list-style-type: none"> • oil spill contingency planning and response procedures and personnel training; and • oil spill response equipment on site. <p>These mitigations are incorporated into Husky’s activity-specific Environmental Protection Plans, and are a fundamental component of Husky’s Operations Integrity Management System.”</p>	
Subsection 3.11.2	Operations and Maintenance Procedures
Subsection 3.11.7	Contingency Plans
<p>Env. Aff: In relation to "Contingency Plans" Husky should include a commitment to reassess current spill response capabilities to ensure those capabilities are current and offer the widest range of response alternatives in the event of a spill.</p> <p>Husky Response:</p> <p>The following text is added to Section 5.3 (Environmental Criteria) in the North Amethyst Development Plan:</p> <p>“As part of Husky’s Operations Integrity Management System, emergency preparedness and response plans are reviewed regularly and updated, as required, to maintain appropriate response capabilities. Updates incorporate lessons learned from previous incidents and from simulation/drill exercises.”</p>	
Subsection 3.12	Decommissioning and Abandonment
<p>Res. Mgmt: An overview plan should be discussed.</p> <p>Husky Response:</p> <p>The following text is added to Section 5.6 (Decommissioning and Abandonment) in the North Amethyst Development Plan:</p> <p>“Husky has a conceptual plan for decommissioning and abandonment of the White Rose field and other fields tied back to the <i>SeaRose</i> FPSO. This conceptual plan will be subjected to further development and optimization in the future through the development of detailed plans and procedures prior to decommissioning activities. The final plan will be compliant with the relevant regulations pursuant to the <i>Canada-Newfoundland and Labrador Atlantic Accord Implementation Act</i>.</p> <p>The following activities are anticipated for decommissioning:</p> <p>FPSO</p> <p>The <i>SeaRose</i> FPSO is designed to operate under its own power in the disconnected mode. On field abandonment, it is planned to disconnect the vessel from the riser buoy and sail away to an as yet undetermined port. The topsides equipment will be decommissioned offshore, and any residual hazardous waste arising from this will be taken to shore and treated at appropriate approved waste treatment facilities. All anchors, lines and chains will be recovered.</p>	

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The ultimate disposition of the FPSO will depend upon its condition at the end of the production life of the White Rose field and upon the options available for further use.

Subsea Equipment

Husky intends to follow the following procedure for abandonment of wells:

- install cement plugs and mechanical bridge plugs as follows:
 - at the bottom of the deepest casing string;
 - above the uppermost perforations;
 - at depths not exceeding 150 m below the mudline;
 - to seal off porous, permeable formations; and
 - to seal off formations with abnormal pressures;
- remove wellheads and cutting casings; and,
- displace hydrocarbons in production wells with a kill fluid and abandon in place.

Christmas trees and manifolds and all risers and flowlines will be purged, rendered safe, and recovered as appropriate.”

Subsection 3.13 Development and Operating Cost Data

Res. Mgmt: For the greenfield option, the cost data given in Table 6-2 should be extended to include the annual costs up to and including the last year of production. Also, the breakdown of capital costs in the table could be further disaggregated to at least those five categories given later in the Development Plan (see p. 156).

Husky Response:

Table 6-2 has been revised to extend the annual costs for the greenfield option up to and including the last year of production. Also, the breakdown of capital costs in the table has been disaggregated to the categories given in Section 11 (Development Costs) in the North Amethyst Development Plan.

The revised table is provided as Attachment 4. Note that it is likely the greenfield FPSO would reach its economic limit before the 10 years of production is reached (i.e, the cost of leasing and operating the vessel would be greater than the value of production).

It should be noted that the cost estimates have increased since submission of the North Amethyst Development Plan in August 2007; the costs in the revised Table 6-2 reflect this increase. The new cost estimate is a result of increased costs related to a better defined scope and revised vendor quotes.

The cost estimates provided in Section 11 of the North Amethyst Development Plan are also revised as follows to reflect the increased costs associated with development of the North Amethyst tie-back. Note the cost of *SeaRose FPSO* modifications has been reduced because the modifications required to tie-back North Amethyst through the Southern Drill Centre are significantly less than those that would be required to tie-back North Amethyst directly to *SeaRose*.

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• Project Management and Engineering	\$ 137 M
• SeaRose Modifications	\$ 7 M
• Drilling and Completions	\$ 705 M
• Glory Hole Construction	\$ 32 M
• Subsea Production System	\$587 M

For the greenfield option, an estimate of decommissioning/abandonment cost should be given.

Husky Response:

Decommissioning and abandonment costs for the greenfield option would be the same as for the tie-back to SeaRose with respect to the North Amethyst drill centre. However, there would be an additional cost for decommissioning of the mooring system and the FPSO associated with the greenfield option. Husky is currently updating the decommissioning and abandonment costs for the White Rose field and associated tie-backs. From that estimate, the cost of decommissioning the greenfield option can be determined. The updated costing will be available by the end of 2007.

For the greenfield option, the corresponding production profile should be provided.

Husky Response:

The North Amethyst production profile provided is the base case production profile. This production profile is based on a minimum well head pressure (WHP) requirement of 60 Bar. This assumption was made with the expectation that 60 Bar is sufficient to produce to the FPSO independent of the tie back method. This production profile is based on one scenario and would change if assumption changed as detailed in Section 3.3.2 of the North Amethyst Development Plan.

This base case production profile is independent of the tie-back method utilized. Once detailed flow assurance is completed, a production profile that considers the specific North Amethyst WHP requirements will be available. This production profile considering the planned tie-back method will be the revised base case production profile for planning purposes. Additional alternative tie-back options will not be assessed.

For the greenfield option, a base-case forecast of oil prices should also be provided. (Presumably, the same forecast would be used for the tie-back approach.

Husky Response:

Husky will not be providing a base-case forecast of oil prices for the greenfield FPSO option. The information provided in the Development Plan is sufficient for the C-NLOPB to run economic evaluations using C-NLOPB price premises should the C-NLOPB wish to do so.

North Amethyst Satellite Tie-Back

The annual costs, as given in Table 6-2, should distinguish between the two tie-back options and should be extended to include the annual costs up to and including the last year of production. The associated costs, as per the White Rose Development Plan Amendment, should also be included. Disaggregation of capital costs, as suggested above regarding the Greenfield option, should also be done.

Husky Response:

Husky has selected Option B for development of North Amethyst i.e., tie-back to SeaRose via the Southern Drill Centre. Therefore, the modifications identified in the White Rose Development Plan Amendment to tie back North Amethyst directly to SeaRose will not be required. The revised Table 6.2 does not include this cost.

There should be an estimate of decommissioning/abandonment cost to the extent that such costs already associated with the White Rose development are affected, if at all.

Husky Response:

Addition of North Amethyst means there will be incremental costs to those already associated with the White Rose development in that an additional drill centre and flowlines will require decommissioning. Husky is currently developing an updated cost estimate for decommissioning and abandonment of the White Rose field and associated tie-backs. It is not realistic to calculate the cost of decommissioning the North Amethyst drill centre in isolation from decommissioning of the entire White Rose field. This is due to the synergies that will be realized by a program that addresses decommissioning of several drill centres. The updated cost estimate will be available by the end of 2007.

For each tie-back option, there should be a production profile. If a common production profile is used for each, then the rationale for doing so should be given.

Husky Response:

The North Amethyst production profile provided is the base case production profile. This production profile is based on a minimum well head pressure (WHP) requirement of 60 Bar. This assumption was made with the expectation that 60 Bar is sufficient to produce to the FPSO independent of the tie back method. This production profile is based on one scenario and would change if assumption changed as detailed in Section 3.3.2 of the North Amethyst Development Plan.

This base case production profile is independent of the tie-back method utilized. Once detailed flow assurance is completed, a production profile that considers the specific North Amethyst WHP requirements will be available. This production profile considering the planned tie-back method will be the revised base case production profile for planning purposes. Additional alternative tie-back options will not be assessed.

For each tie-back option, there should be a base-case forecast for oil prices.

North Amethyst Satellite Tie-Back	
Husky Response:	
Husky will not be providing a base-case forecast of oil prices for the two tie-back options. The information provided in the Development Plan is sufficient for the C-NLOPB to run economic evaluations using C-NLOPB price premises should the C-NLOPB wish to do so.	
Since the tie-back approach is the preferred option, there should be alternative cost, production and price profiles provided in order to facilitate the required sensitivity analyses. Those profiles should be based on reasonable assumptions that are made explicit.	
Husky Response:	
Refer to above responses related to production and price profiles.	
Subsection 3.11.4	Operability of the Proposed Development
Ops. & Safe: The proponent should provide comments on the expected overall operating efficiency and reliability of the proposed development in terms of the effects of: equipment redundancy, scheduled maintenance and inspection programs, and well workover requirements.	
Husky Response:	
The following text is added to Section 9.0 (Operations and Maintenance) in the North Amethyst Development Plan:	
“Availability assessment results and operational reviews and design input has allowed for a minimal impact on system and equipment uptime. To the maximum extent possible, in place sparing has been maintained and reviews of additional spare part requirements will be conducted as a part of detailed design.”	
Subsection 3.11.9	Production Safety
Ops. & Safe: The proponent should provide information on any intended effects on the exclusion zone for the application.	
Husky Response:	
The following text is added to Section 9.0 (Operations and Maintenance) in the North Amethyst Development Plan:	
“With the development of new drill centres, the Safety Zone around the White Rose field, as identified on current navigation maps, will require revision to include additional drill centres. Husky intends to begin discussions in Qtr 4 2007 with the C-NLOPB and Transport Canada in order to revise the current Safety Zone.”	
Subsection 3.14	Guidelines for Development Plan (Part II)
Env. Aff: Section 14 of your Development Plan should make reference to completed environmental assessment reports, existing EPCMP, OSRP that support this plan.	

North Amethyst Satellite Tie-Back

Husky Response:

The following documents are to be added to Section 14 (Documents Used in Preparation of the Development Plan) in the North Amethyst Development Plan:

- White Rose Oilfield Development Application: Environmental Impact Statement Volume 3 (Husky Document No. CF-0008).
- Husky White Rose Development Project: New Drill Centre Construction and Operations Program Environmental Assessment (Husky Document No. WR-HSE-RP-4003)
- Husky White Rose Development Project: New Drill Centre Construction and Operations Program Environmental Assessment Addendum (Husky Document No. WR-HSE-RP-0167).
- Environmental Protection and Compliance Monitoring Plan (EPCMP) – Development Drilling (Husky Document No. WR-HSE-PR-4024).
- FPSO Production Environmental Protection and Compliance Monitoring Plan (Husky Document No. Wr-R-oo-X-PG-00001-001).
- East Coast Oil Spill Response Plan (Husky Document No. WR-ERP-PR-0001).

Subsection 4.1 Concept Safety Analysis and Target Levels of Safety

Env. Aff: The analysis of quantitative/qualitative risk of environmental spills and releases associated with events in the CSA is a required component. Risks to the environment associated with accidental releases and identification of potential mitigations has been captured (to some extent) in the Husky environmental assessment (WR-HSE-RP-4003, pp 209 to 272). Project associated risks to facilities and personnel have been analyzed in the Concept Safety Analysis (SR-HSE-RP-0003).

There is a reference to the concept safety analysis on page 156 of the Development Plan (SR-SRT-RP-0002).

Since personnel/facility risks and environmental risks associated with safety related incidents are reported in separate documents, Husky should review the risks as assessed to ensure that they are comparable between documents and should discuss this in the Development Plan.

Husky Response:

The following text is added to Section 10.0 (Safety Analysis) in the North Amethyst Development Plan:

“The SeaRose Tie-Back Project Concept Safety Assessment addresses primarily *Major Hazards* and does not evaluate target levels for risks to the environment. This is consistent with the approach taken in the White Rose Quantitative Risk Assessment (WR-HSE-RP-0003).

The SeaRose Tie-Back Project CSA SR-HSE-RP-0003 states:

North Amethyst Satellite Tie-Back

The risks to the environment from the White Rose Extension Developments have not been considered in this report. Since the White Rose Development Application was submitted, Husky has determined that environmental risk is more appropriately defined through a qualitative, rather than quantitative, assessment. The qualitative assessment provides a number of environmental objectives and provides protection measures to ensure these objectives are met.

The QRA report WR-HSE-RP-0003 also uses similar words:

The TLS stated for the environment was that accident scenarios with the potential for resulting in spills in excess of 50 barrels should not have an aggregate frequency of more than 1×10^{-3} per annum, or once every one thousand years.

Since the Development Application was submitted, Husky has determined that Environmental Risk is more appropriately defined through a qualitative assessment rather than quantitative assessment. The qualitative assessment provides a number of environmental objectives described in The FPSO Production Operations, Environmental Protection and Compliance Monitoring Plan (EPCMP) (WR-R-00-X-PG-00001-001, Rev E3). The plan also provides the protection measures in place to ensure these objectives are met.

The Major Hazards to the environment that are presented in the QRA and CSA reports include subsea releases from blowouts during drilling & completions and from dropped objects during construction, plus riser releases during oil production. Although frequency of releases is predicted based on worldwide release statistics, these numerical values are not evaluated against quantitative targets.”

Subsection 4.2 Risk Assessment Plan

Ops. & Safe: There is no clear "risk assessment plan" although there are recommendations in the "Concept Safety Assessment" submitted. The proponent should elaborate on its "risk assessment plan" including intended risk assessment exercises, and follow-up studies including, but not limited to, those recommended in the Concept Safety Assessment.

Husky Response:

A Safety Assessment Plan for the Tie-Back project is being developed. The draft Plan is provided as Attachment 5.

The following text is added to Section 10.0 (Safety Analysis) in the North Amethyst Development Plan:

“Recommendations from both the SWRX CSA and the current SeaRose Tie-Back Project CSA will be tracked to closure in the Husky Action tracking Management System.”

Section 5.0

Introduction

North Amethyst Satellite Tie-Back

Env. Aff: Husky Energy completed an environmental assessment for the proposed North Amethyst Satellite Tie-back in April 2007. The "*Husky White Rose Development Project: New Drill Centre Construction and Operations Program Environmental Assessment*" and the Addendum (LGL 2007) address all elements of the proposed project as stated in the Development Application. However, the Development Plan (SR-SRT-RP-0002) should make reference to the environmental assessment reports and the environmental assessment process undertaken in support of this Application, and include a summary of the environmental assessment including a discussion of significance of project effects and mitigations to be applied by Husky Energy during the project.

It is noted that a similar summary is provided in the Project Summary (Sr-SRT-RP-0007). However, the information described above should be included in the Development Plan.

Husky Response:

The following text is added to Section 5.3 (Environmental Criteria) in the North Amethyst Development Plan:

“Following is a summary of the predicted residual environmental effects of the North Amethyst tie-back:

The predicted residual environmental effects of the Husky White Rose Development Project: New Drill Centre Construction & Operations Program including possible accidental events on fish habitat/fish and the fishery are assessed as negative, but *not significant*.

The predicted residual environmental effects of the routine activities of the Husky White Rose Development Project: New Drill Centre Construction & Operations Program on marine birds are assessed to be negative, but *not significant*. The predicted residual environmental effect of an accidental event such as a major oil spill on marine birds, although very unlikely, is assessed to be negative and *significant*. The overall effect of the Project on marine birds is assessed as *not significant*.

The predicted residual effects of the Husky White Rose Development Project: New Drill Centre Construction & Operations Program including possible accidental events on marine mammals and sea turtles are assessed to be negative, but *not significant*.

In summary, after mitigation measures have been implemented, the overall predicted effects of the proposed Husky White Rose Development Project: New Drill Centre Construction & Operations Program on the biophysical environment and the fishery are assessed as *not significant*. The only exceptions are the potential effects of a large offshore oil spill on marine birds and on the marketability of offshore commercial fish. However, the likelihood of such an event is, as discussed previously, very low. In the event of an accidental blowout with release of oil, in calm conditions, some mitigation may be possible through oil spill response measures. Also, in the case of fishery losses directly attributable to the Project, actual loss would be mitigated through compensation. The capacity of

North Amethyst Satellite Tie-Back

renewable resources to meet present and future needs is not likely to be significantly affected by the proposed project.

Refer to Sections 8.0 (Construction and Installation) and 9.0 (Operations and Maintenance) for mitigations identified in the environmental assessment.”

SeaRose FPSO Modifications

Operations & Safety and Environmental Affairs

General Comments – Operations & Safety:

During the completeness review of the SeaRose FPSO Modifications Development Plan Amendment, we note that there are a number of references to the South White Rose Extension. Any information, in this document or otherwise, which significantly affects the information and/or assumptions in the South White Rose Extension Decision 2007.02 must be addressed separately in the Development Plan Amendment above. Some potential examples include:

1. Change in proposed schedule
2. Change in facility resulting in new operability concerns (e.g. subsea control of more than 33 wells)
3. Changes that impact the 3rd party risk analysis work that was conducted for the SWRX; such as any associated facility changes.

Husky Response:

The SeaRose Tie-Back Project Concept Safety Assessment (SR-HSE-RP-0003) (relating to the North Amethyst Development Plan and the White Rose Development Plan Amendment as it pertains to SeaRose FPSO upgrades) has been built upon the same quantitative risk analysis (QRA) model as was used previously for the South White Rose Extension CSA (SX-HSE-RP-0001).

SWRX is now presented as one component of the overall Tie-Back project scope. In effect, the SWRX CSA has been “superseded” by the Tie-Back Project CSA. The Tie-Back Project CSA shows that the effect on the Target Levels of Safety is very small for the additional Project scope. The drilling and installation schedules have been adjusted in the more recent CSA report in line with Tie-back Project schedules. The method of subsea control of the additional wells is currently being evaluated by the FEED team.

General Comments – Environmental Affairs:

Husky indicates an additional turbine is required (see SRT-RP-0003, p17). Husky may need to revise their approved plans with respect to greenhouse gas emission to show how the technology used will achieve the lowest emissions possible. Husky should

SeaRose FPSO Modifications

acknowledge that they will develop a strategy as to how they plan to comply with the federal government's current position on Green house gases in the Development Plan Amendment.

Husky Response:

The following text is added to Section 9.3 (Environmental Criteria) in the White Rose Development Plan Amendment *SeaRose FPSO Modifications*:

“Following determination of the final FPSO modifications scope, Husky will review existing plans related to greenhouse gas emissions and update them if necessary. A strategy for compliance to the federal Air Action Plan will be developed once the regulations have been finalized (projected date March 2008).”

Produced water handling capacity may increase from 28,000 m³/day to 31,000 m³/day. This exceeds the volume, which was presented in the Environmental Assessment documentation. Husky has indicated (see SR-SRI-RP-0003, p22) that they will be reviewing the feasibility of produced water re-injection and improvements to treatment of produced water.

Husky has proposed a number of modifications to the process train (see SRT-RP-0003, p16). The impact of these modifications on meeting discharge limits should be assessed. Where new equipment and size increases in equipment are noted Husky must consider that this cannot impact on deck space reserved for PWRI. Where Husky indicates that they plan to install new water injection pumps with separate booster pumps they should assess the relationship of this to PWRI issues and assess incremental costs during design to allow eventual accommodation of PWRI. Husky should state in the Development Plan Amendment that they will assess design issues respecting PWRI.

Husky Response:

The following text is added to Section 9.3 (Environmental Criteria) in the White Rose Development Plan Amendment *SeaRose FPSO Modifications*:

“In the study WR-ENG-RP-0007 Rev D1 Produced Water Re-injection, deck space was identified on the cargo deck for PWRI equipment. Husky does not currently propose to utilize this space for the potential modifications to the SeaRose identified in the White Rose Development Plan Amendment. As part of the analysis of the feasibility of re-injecting produced water, Husky is assessing design issues related to produced water re-injection.”

The completeness review of the Sea Rose FPSO Modifications has identified the following clarifications/additional requirements.

Subsection 1.2.1 Development Plan

Env. Aff: There are EPCMP and OSRP currently in use with respect to the operation of the SeaRose FPSO. The need for updating/revision of the EPP should be discussed as part of the Development Plan Amendment.

SeaRose FPSO Modifications
<p>Husky Response:</p> <p>The following text is added to Section 9.3 (Environmental Criteria) in the White Rose Development Plan Amendment <i>SeaRose FPSO Modifications</i>:</p> <p>“As part of Husky’s Operations Integrity Management System, emergency preparedness and response plans are reviewed regularly and updated, as required, to maintain appropriate response capabilities. Updates incorporate lessons learned from previous incidents and from simulation/drill exercises.</p> <p>Husky has an Environmental Protection Plan (EPP) and an Environmental Protection and Compliance Monitoring Plan (EPCMP) currently in use for ongoing operations on the <i>SeaRose FPSO</i>. Husky’s EPP and EPCMP will be reviewed to determine if any updates or revisions are required due to any modifications that are done to the FPSO.”</p>
<p>Subsection 3.1 Project Overview</p>
<p>Ops. & Safe: There is a high-level schedule for FPSO modification, but only one decision point is shown (project sanction). The proponent should provide schedule that shows key events and decision points for the design, procurement, and construction stages of all major elements of the project.</p> <p>Husky Response:</p> <p>Figure 6.1 in the White Rose Development Plan Amendment <i>SeaRose FPSO Modifications</i> indicates timelines for design (engineering to support construction), procurement and construction (construction/ship yard scope), planned turnaround and first oil window. These are the key events that, following sanction, will progress accordingly. Sanction is a critical decision point for Husky from which detailed design, procurement and construction will flow. None of these activities will occur prior to sanction by Husky and its partners. As the project progresses and schedules are further refined, the C-NLOPB will be notified of the execution timeline for these activities.</p>
<p>Subsection 3.8.1 Physical Environmental Criteria</p>
<p>Ops. & Safe: It is the proponent’s intention to rely on environmental design criteria from the original White Rose Development. The proponent should comment on any more current environmental data available to confirm this is acceptable.</p> <p>Husky Response:</p> <p>Husky intends to utilize the design environmental criteria developed for the original development that were based on analysis of the AES 40 database. Husky is aware of the recent extension of this database to include environmental data collated through 2004 and is currently assessing its influence on the project design environmental criteria.</p>
<p>Subsection 3.9.2 Topside Facilities</p>
<p>Ops. & Safe: Section 3 “SeaRose FPSO Modifications for North Amethyst Satellite Tie-back” lists the required modifications for "Option A", and is assumed to be considered the proponent's base case provided that clarification is drawn from the North Amethyst</p>

SeaRose FPSO Modifications

completeness review. The proponent should confirm this.

Husky Response:

At this time Option B is considered the proposed method of development for the North Amethyst field. Husky is planning to develop North Amethyst through the Southern Drill Centre in 2009. Therefore, the modifications identified in Section 3.0 of White Rose Development Plan Amendment *SeaRose FPSO Modifications* will not be required.

Section 4 "Modifications to SeaRose FPSO to Increase Produced Water and Gas Handling Capacity" lists 24 bulleted items that MAY be changed. It is unclear if any of these modifications are considered part of the proponents preferred option. The proponent should clarify which of these are considered part of the preferred option for the application.

Husky Response:

The following text is added to Section 4.0 (Modifications to *SeaRose FPSO* to Increase Produced Water and Gas Handling Capacity) in the White Rose Development Plan Amendment *SeaRose FPSO Modifications*:

"The modifications described in Section 4.0 are not required in order to tie-back the North Amethyst field to the *SeaRose FPSO*. Rather, the modifications are being considered in the context of the larger potential field development which includes South White Rose Extension, West White Rose Extension and other future possible satellite tie-backs. Similar to North Amethyst, the modifications would not need to be done for any one of the noted tie-backs alone but may be required in order to maintain maximum oil production when all proposed satellites are tied back. At this time, Husky is seeking regulatory approval for the modifications identified in Section 4.0 since this is the likely scope of what may be required. Should it be determined that these modifications are required, the final scope will be determined during FEED and detailed design."

The proponent should provide a "clear statement of the facilities' maximum oil, gas and water processing capacity" in accordance with section 3.9.2 of the development plan guidelines.

Husky Response:

As noted in Section 4.0 (Modifications to *SeaRose FPSO* to Increase Produced Water and Gas Handling Capacity) in the White Rose Development Plan Amendment *SeaRose FPSO Modifications*, maximum oil production will remain at 22,261 m³/day (140,000 bpd). However, as a result of the potential enhancements, gas handling capacity may increase from 4.2E+6 Sm³/day (150 mmscfd) to 6.14E+6 Sm³/day (217 mmscfd), water injection capacity may increase from 44,000 m³/day (277,000 bpd) to 57,000 m³/day (359,000 bpd), and produced water handling capacity may increase from 28,000 m³/day (176,400 bpd) to 31,000 m³/day (195,300 bpd). Total liquids handling capacity will increase from 33,000 m³/day to 39,000

SeaRose FPSO Modifications

m³/day.

The Proponent should provide clarification of system bottlenecks, limitation contingencies, scope and flexibility for future modifications.

Husky Response:

The following text is added to Section 10.0 (Operations and Maintenance) in the White Rose Development Plan Amendment *SeaRose FPSO Modifications*:

“Husky is currently in the FEED stage with respect to the proposed *SeaRose FPSO Modifications* and, at this time, it is not possible to identify or evaluate any other modification post 2010. However, Husky does intend to carry out a further performance test program to evaluate any other potential system enhancements if necessary. This activity would occur in Q1 /Q2 of 2011.”

Env. Aff: Husky should conduct an analysis of all discharges to identify how modifications may affect discharges. Where volumes and amounts of contaminants discharged are affected, discuss the mitigations to be in place to minimize the volumes discharged and discuss how the amount of contaminants to be discharged comply with the OWTG (or other applicable regulation).

Husky Response:

The following text is added to Section 4.0 (Modifications to *SeaRose FPSO* to Increase Produced Water and Gas Handling Capacity) in the White Rose Development Plan Amendment *SeaRose FPSO Modifications*:

“Husky is currently in the FEED stage with respect to the proposed *SeaRose FPSO Modifications* and has not confirmed if the modifications will be required. During detailed design, the effects on discharges of selected modifications will be identified. Husky will continue to meet the OWTG and other applicable regulations as required.”

Subsection 3.9.4 Export System

Ops. & Safe: There is no mention of any required changes to the *SeaRose* export system. The proponent should comment on the FPSO's export system, and confirm that the export system will not be modified.

Husky Response:

The following is added to Section 10.0 (Operations and Maintenance) in the White Rose Development Plan Amendment *SeaRose FPSO Modifications*:

“Offloading facilities are located at the stern of the *SeaRose FPSO* and incorporate a fiscal metering system as an integrated package. The offloading system and offloading rate are designed with regard to the environmental conditions in the field, such that the availability of the facility is not compromised by weather limitations which inhibit shuttle tanker connection or cause disconnection. The offloading system includes a mooring hawser complete with

SeaRose FPSO Modifications	
messenger line. No modifications will be required to this system as a result of the potential modifications to the <i>SeaRose</i> to accommodate North Amethyst or to increase gas and produced water handling.”	
Subsection 3.11.4 Operability of the Proposed Development	
Ops. & Safe: The proponent should provide comments on the expected overall operating efficiency and reliability of the proposed development in terms of the effects of: breakdowns in central power generation on process facilities and export systems, equipment redundancy, scheduled maintenance and inspection programs, downtime resulting from environmental conditions such as sea ice, icebergs, sea state and reduced visibility.	
Husky Response:	
The following text is added to Section 10.0 (Operations and Maintenance) in the White Rose Development Plan Amendment <i>SeaRose FPSO Modifications</i> :	
“Availability assessment results and operational reviews and design input has allowed for a minimal impact on system and equipment uptime. To the maximum extent possible, in place sparing has been maintained and reviews will be conducted as a part of detailed design as to additional spare parts requirements.”	
Subsection 4.2 Risk Assessment Plan	
Ops. & Safe: There is no clear "risk assessment plan" although there are recommendations in the "Concept Safety Assessment" submitted. The proponent should elaborate on its "risk assessment plan" including intended risk assessment exercises, and follow-up studies including, but not limited to, those recommended in the Concept Safety Assessment.	
Husky Response:	
A Safety Assessment Plan for the Tie-Back project is being developed. The draft Plan is provided as Attachment 5.	
The following text is added to Section 11.0 (Safety Analysis) in the White Rose Development Plan Amendment <i>SeaRose FPSO Modifications</i> :	
“Recommendations from both the SWRX CSA and the current <i>SeaRose Tie-Back Project CSA</i> will be tracked to closure in the Husky Action tracking Management System.”	
Subsection 4.6	Security
The proponent should provide comments to any affects the application would have on the <i>SeaRose</i> security plan that has already been filed with the C-NLOPB.	
Husky Response:	
The following text is added to Section 10.0 (Operations and Maintenance) in the White Rose Development Plan Amendment <i>SeaRose FPSO Modifications</i> :	
“The proposed modifications do not change access to the <i>SeaRose FPSO</i> or	

SeaRose FPSO Modifications	
<p>FPSO operations, therefore the Security Plan will not be affected. If modifications require the FPSO to come off station, current security plans (and other plans associated with the Production Operations Authorization) would be temporarily suspended. The quayside contractor will be required to produce, for Husky's approval, a security plan appropriate to a construction facility. Returning to site will require a renewal of the Production Operations Authorization and part of this process will be the review, update, submission and approval of the associated documents, including the Security Plan. However, any changes to the Security Plan would be due to incorporation of lessons learned and to make the document more usable rather than due to the proposed modifications."</p>	
Section 5.0	Introduction
<p>Env. Aff: SR-SRT-RP-0003 describes modifications to the SeaRose to accommodate an increase in produced water to a maximum of 31,000m³/day. However, the Development Plan (SR-SRT-RP-007) indicates that production water will not exceed current FPSO capability of 28,000 m³/day. The discrepancy between the need to increase produced water handling capability to 31,000 and the NA satellite development requirements of 28,000 should be clarified.</p>	
<p>Husky Response:</p> <p>Husky confirms that the North Amethyst Development Plan (SR-SRT-RP-007) indicating that the produced water will not exceed the currently installed capacity of 28,000 m³/day is correct. The produced water increase to 31,000 m³/day will only be implemented at some future date should additional tie-back requirements warrant such an increase.</p>	

If you have any questions, please contact Ms. Kathy Knox at 724-3994.

Yours sincerely



Margaret Allan
 Manager, Administration and Regulatory Affairs

Attachments

cc John Rogers - Husky
 Kathy Knox - Husky