

National Energy
Board



Office national
de l'énergie

File OF-EP-Well 05 02
30 April 2010

To: All Participants to MH-1-2010

**Information Request (IR) No. 1 for MH-1-2010
National Energy Board Policy Hearing for
Same Season Relief Well Capability for Drilling in the Beaufort Sea**

The National Energy Board (the Board) continues to examine the written submissions for MH-1-2010 and has determined that additional information is required, as detailed in the attached IR No. 1.

While this cover letter is addressed to all participants in the hearing process, individual IRs are addressed to specific participants or groups of participants. Participants are asked to respond to the IRs addressed to them.

All Participants are directed to file their responses to IR No. 1 with the Board **by noon, Calgary time, 18 May 2010.**

If you have any questions about this document, please contact Andrew Hudson, Board Counsel at 403-299-2708 or toll-free at 1-800-899-1265 or at andrew.hudson@neb-one.gc.ca.

Yours truly,

A handwritten signature in black ink, appearing to read "A. Erickson".

For
Anne-Marie Erickson
Secretary of the Board

Attachment

Information Request No. 1 for MH-1-2010

**National Energy Board Policy Hearing for
Same Season Relief Well (SSRW) Capability for Drilling in the Beaufort Sea**

**NEB File No. OF-EP-Well 05 02
30 April 2010**

TO: ALL PARTICIPANTS

1.1 NEED FOR A POLICY OR GUIDELINE

- Reference:**
- i) *Canada Oil and Gas Operations Act (COGOA)*
 - ii) *Canada Oil and Gas Drilling and Production Regulations (D&P Regs)*
 - iii) BP Exploration Operating Company Limited (BP), submission dated 22 March 2010, Paragraph 63 (NEB C-02-2B)

Preamble: Paragraph 5(1)(b) of COGOA requires that companies obtain a project-specific authorization for a proposed work or activity.

The D&P Regs apply to any oil and gas drilling or production work or activity in the Canadian Beaufort Sea and contain numerous requirements related to prevention of, and response to, incidents.

Subsection 6(j) of the D&P Regs states:

6. The application for authorization shall be accompanied by
- (j) contingency plans, including emergency response procedures, to mitigate the effects of any reasonably foreseeable event that might compromise safety or environmental protection. . . .

Regulatory decision making is evidence-based. The onus is on the company to develop the contingency plans appropriate for its proposed project, taking into account anticipated hazards and risks, and identifying appropriate equipment, procedures and personnel.

The National Energy Board considers the adequacy of the plans on a project by project basis at the application stage. The plans can also be considered during any environmental assessment process conducted for the proposed project.

In its submission, BP stated "...additional certainty and clarity on dealing with the approach to well control generally, and relief wells in particular, are required now."

- Request:**
- a) In relation to the current regulatory framework, please outline your position on the need for a SSRW capability policy. If additional certainty or clarity is being sought, please elaborate. In responding to the question, please identify and explain the benefits of what is being suggested.
 - b) How would a SSRW capability policy fit within this framework?
 - c) Describe any factors or circumstances relevant to offshore drilling in the Canadian Beaufort Sea that would support the need for requirements additional to those set out in the D&P Regs.
 - d) What form(s) should such requirements take? (e.g. a policy, guideline, interpretation note, term or condition of approval, etc.). Please provide a rationale.

To: ALL PARTICIPANTS

1.2 IMPLICATIONS OF A SSRW CAPABILITY POLICY

- Reference:**
- i) Imperial Oil Resources Ventures Limited (Imperial), submission dated 22 March 2010, Section 4.2 (NEB C-05-6)
 - ii) BP, submission dated 22 March 2010, Paragraph 21 (NEB C-02-2B)
 - iii) Chevron Canada limited (Chevron), submission dated 22 March 2010, Executive Summary (NEB C-03-4)
 - iv) ConocoPhillips Canada Resources Corp. (ConocoPhillips), submission dated 20 March 2010, Summary (NEB C-04-2)

Preamble: Current offshore exploration licenses cover areas of the Canadian Beaufort Sea characterized by deeper waters at the shelf break and more dynamic ice conditions.

Several parties in this proceeding have indicated that drilling a relief well and achieving the objective of the relief well (well control) in the same season is not feasible in such areas.

Request: If SSRW capability is not feasible in areas of the Canadian Beaufort Sea, describe an alternate relief well policy or any other policy that in your view is feasible.

TO: ALL PARTICIPANTS

1.3 POTENTIAL GUIDELINE – SCOPE, TIMING, CONTENT, AND PROCESS

Reference:

- i) COGOA subsection 5.3(1) Guidelines and Interpretation Notes
- ii) D&P Regs subsection 6(j) contingency plans
- iii) Imperial, submission dated 22 March 2010, Section 1.2 (NEB C-05-6)

Preamble: Subsection 5.3(1) of the COGOA states:

5.3(1) “The National Energy Board may issue and publish, in any manner the Board considers appropriate, guidelines and interpretation notes with respect to the application and administration of section 5, 5.1 or 13.02 or any regulations made under section 13.17 or 14.”

The requirement to obtain an authorization for a proposed work or activity is set out in section 5(1) of the COGOA.

The D&P Regs, made under section 14 of the COGOA, apply to any offshore oil and gas drilling or production work or activity in the Canadian Beaufort Sea.

Subsection 6(j) of the D&P Regs states:

6. The application for authorization shall be accompanied by

(j) contingency plans, including emergency response procedures, to mitigate the effects of any reasonably foreseeable event that might compromise safety or environmental protection....

In its 22 March 2010 submission, Imperial suggests that the NEB communicate the outcome of the policy review by issuing a guidance note related to regulatory requirements for contingency plans.

Request:

- a) If the Board were to decide to develop a guideline related to contingency plans, in your opinion:
 - 1. what should the scope of a guideline be? (e.g., type of activity, geographic location)
 - 2. what topic areas should be included?
 - 3. what process should be followed to engage stakeholders in the development of the guideline?
 - 4. when should such a guideline be developed? (i.e., timing)
 - 5. should there be a policy behind the guideline? If so, what policy?

- b) To what extent would a guideline related to contingency plans be dependent upon the existence of a SSRW capability policy?

To: INUVIALUIT GAME COUNCIL

1.4 METHODOLOGY FOR SSRW EQUIVALENCY

Reference: i) Inuvialuit Game Council (IGC) Letter Re: Hearing Order MH-1-2010 – IGC Submission dated 6 April 2010 (C-11-4)

Preamble: In the reference the IGC states “...IGC is supportive of the concept of a SSRW “equivalency” that would provide an equal or greater level of protection of the natural resources in the Inuvialuit Settlement Region.”

- Request:**
- a) What factors should be taken into account when evaluating whether proposed contingency plans would result in an equivalent or greater level of protection?
 - b) How should effectiveness be measured?
 - c) For clarity, please explain the scope of ‘natural resources.’

To: BP, IMPERIAL, CHEVRON, CONOCOPHILLIPS, MGM ENERGY CORP (MGM), TRANSOCEAN OFFSHORE DEEPWATER DRILLING INC. (TRANSOCEAN), AND SHELL CANADA LIMITED (SHELL)

1.5 BLOW OUT PREVENTERS

Reference: i) D&P Regs - s. 36 Well Control

Preamble: The D&P Regs apply to any oil and gas drilling or production work or activity in the Canadian Beaufort Sea.

Subsection 36 (2) of the D&P Regs states:

36. (2) After setting the surface casing, the operator shall ensure that at least two independent and tested well barriers are in place during all well operations.

- Request:**
- a) Please identify and describe any conditions or circumstances that could be encountered in the Canadian Beaufort Sea under which a Blow Out Preventer (BOP) would not be an effective well barrier.
 - b) Describe how BOPs are tested and identify when, during the drilling process, they are tested.

- c) Describe the methods used, and factors considered, in selecting BOP design for a proposed drilling project. Identify the design features considered.
- d) Describe how BOPs are activated and the time it takes to activate a BOP (for each means employed), based on an offshore Beaufort Sea scenario.
- e) Please describe any conditions or circumstances that could prevent a BOP from being activated in a timely manner.
- f) Describe any conditions, or downhole activities (e.g. wireline), that could affect the effectiveness of a BOP.

To: BP, IMPERIAL, CHEVRON, CONOCOPHILLIPS, MGM, SHELL AND TRANSOCEAN

1.6 LOSS OF WELL CONTROL PATHWAYS

Reference: i) D&P Regs - s. 6(j)

Preamble: The D&P Regs apply to any oil and gas drilling or production work or activity in the Canadian Beaufort Sea.

Subsection 6(j) of the D&P Regs states:

6. The application for authorization shall be accompanied by
(j) contingency plans, including emergency response procedures, to mitigate the effects of any reasonably foreseeable event that might compromise safety or environmental protection....

Request:

- a) Identify various scenarios related to loss of well control (blow outs), including:
 - 1. loss of control of fluids within the well bore, and
 - 2. a blowout outside of the well casing.
- b) Describe the measures to anticipate and prevent such events including the means to minimize the risk of these events.
- c) Describe the measures available to respond to such events.

To: BP, IMPERIAL, CHEVRON, CONOCOPHILLIPS, MGM, SHELL AND TRANSOCEAN

1.7 INCIDENT INVESTIGATION REPORTS

Reference: i) D&P Regs section 75 Incident Reporting, section 5 Management

Systems and section 19 Safety and Environmental Protection

Preamble: In many international offshore oil and gas jurisdictions, when there is an incident in which there is loss of well control, an investigation is conducted and an investigation report completed. Such reports often contain a description of the incident, its causes (root and contributing) and may contain recommendations and that may be made available to companies and to the public.

The D&P Regs require operators to ensure that every incident and near miss (related to the authorized work or activity), including the loss of containment of any fluid from a well, is investigated, its root cause and causal factors identified and corrective action taken.

The D&P Regs also require operators to identify hazards and evaluate and manage associated risks and that the documents associated with their management system are current and valid. The regulations also require operators to take all reasonable measures to ensure safety and environmental protection.

Request: Please describe how incident reports (either your own or from others) are used in the planning and operations phases of a project, including how they contribute to:

- a) hazard identification and risk evaluation;
- b) design;
- c) equipment selection;
- d) development or modification of procedures and plans; and
- e) selection and training of personnel.

To: BP, IMPERIAL, CHEVRON, CONOCOPHILLIPS, MGM, SHELL AND TRANSOCEAN

1.8 EXEMPTIONS AND EQUIVALENCIES

Reference: i) COGOA section 16. (1)

Preamble: Section 16. (1) of COGOA states:

Equivalent standards and exemptions

16. (1) Subject to subsection (2), the Chief Safety Officer and Chief Conservation Officer may

(a) authorize the use of equipment, methods, measures or standards in lieu of any required by regulation, where those Officers are satisfied that the use of that other equipment and those other methods, measures or standards would provide a level of safety, protection of the environment and conservation equivalent to that provided by compliance with the regulations; or

(b) grant an exemption from any regulatory requirement in respect of equipment, methods, measures or standards, where those Officers are satisfied with the level of safety, protection of the environment and conservation that will be achieved without compliance with that requirement.

Request: Please provide views on the applicability of 16. (1) on the SSRW capability policy.

To: BP, IMPERIAL, CHEVRON, CONOCOPHILLIPS, MGM, SHELL AND TRANSOCEAN

1.9 SHALLOW DRILLING HAZARD

Reference: i) Imperial, submission dated 22 March 2010, Page 3-1, Exploration Well Plan (C-05-6B).
ii) D&P Regs Section 36 (2)

Preamble: Imperial states that the planned well at Ajurak will likely take three drilling seasons to drill and test as illustrated in Figure 3-1: Preliminary Well Design. The initial stages of drilling the well will be completed without a Blowout Preventer (BOP) in place, during which time operations would be susceptible to kicks from shallow gas.

Section 36(2) of the D&P Regs states:

After setting the surface casing, the operator shall ensure that at least two independent and tested well barriers are in place during all well operations.

Request: a) With respect to the phase of drilling in the Canadian Beaufort Sea after the setting of the surface casing and before the installation of a BOP, please:

1. Describe the methods used to determine the presence and depth of shallow gas hazards.
2. Describe other hazards that could be present (e.g. permafrost,

hydrates).

3. Describe the likelihood of encountering these hazards.
 4. Describe the means to manage the risks associated with these hazards, including a description of the available independent barriers.
- b) Please provide a summary of the well control measures used after the setting of the surface casing and before the installation of a BOP.

To: BP, IMPERIAL, CHEVRON, CONOCOPHILLIPS, MGM, SHELL AND TRANSOCEAN

1.10 NEW TECHNOLOGY

Reference: i) D&P Regs

Preamble: The D&P Regs contain numerous requirements related to prevention of, and response to, incidents. The regulations are written in a goal-oriented style with regulatory objectives. The onus is on the company to determine the appropriate means to comply with the regulations for any specific work or activity.

Request: When evaluating the applicability of new or emerging technology that could be used to prevent, or respond to, loss of well control:

- a) what methods are used to determine the suitability and reliability of new technology?
- b) what factors are taken into account?
- c) what, if any, specific factors should be taken into account for a Canadian Beaufort Sea setting?

To: BP, IMPERIAL, CHEVRON, CONOCOPHILLIPS, MGM, SHELL AND TRANSOCEAN

1.11 AVAILABILITY OF DRILLING UNIT FOR A RELIEF WELL

Reference: i) Imperial, submission dated 22 March 2010, Page 2-14, last bullet under Suggested Desired End Results of Relief Well Policy (C-05-6B)

Preamble: Imperial states in the reference that “relief well drilling should only be initiated once the specifics and hazards of the actual well control situation are thoroughly understood.” It is not clear how long it might take to position a drilling unit to drill a relief well.

- Request:**
- a) In the event of uncontrolled flow from the wellbore, how long would it take to understand the well control situation?
 - b) What would be involved in understanding the well control situation?
 - c) How many days would it take before an alternate drilling unit could be available and ready to drill a relief well? Please discuss factors influencing this timing.

TO: PARTIES ADVOCATING CHANGE TO SSRW CAPABILITY POLICY: BP, IMPERIAL, CHEVRON, CONOCOPHILLIPS, MGM AND TRANSOCEAN

1.12 ALTERNATIVES TO SSRW CAPABILITY

- Reference:**
- i) Applications to register as a participant in MH-1-2010

Preamble: Several parties in this proceeding have indicated that they are advocating a change to the SSRW capability policy.

- Request:**
- a) Please identify and describe alternative means to a relief well for the purpose of stopping uncontrolled flow from the well within the same season.
 - b) For those alternative means, provide an evaluation of their effectiveness compared to each other and to a SSRW.

TO: PARTIES ADVOCATING CHANGE TO SSRW CAPABILITY POLICY: BP, IMPERIAL, CHEVRON, CONOCOPHILLIPS AND MGM

1.13 CONTINGENCY PLANNING

- Reference:**
- i) D&P Regs – sections 6 and 19

Preamble: The D&P Regs apply to any oil and gas drilling or production work or activity in the Canadian Beaufort Sea.

Subsection 6(j) of the D&P Regs states:

- 6. The application for authorization shall be accompanied by
 - (j) contingency plans, including emergency response procedures, to mitigate the effects of any reasonably foreseeable event that might compromise safety or environmental protection....

Section 19 of the D&P Regs requires that “operators take all reasonable precautions to ensure safety and protection of the environment....” An operator is, by definition, the holder of the authorization and operating license.

- Request:**
- a) What methods are currently used to:
 - 1. identify and develop appropriate contingency plans for offshore drilling activities?
 - 2. identify reasonably foreseeable events?
 - b) Please explain whether loss of well control would be a reasonably foreseeable event?
 - c) How are preventative and response measures considered in the development of contingency plans?
 - d) What methods are used to determine whether a proposed drilling project has included “all reasonable precautions” to ensure safety and protection of the environment?
 - e) What factors are considered, either alone or in balance, when determining “reasonableness”? Please explain how you would weigh these factors and the basis for doing so.

To: PARTIES ADVOCATING CHANGE TO SSRW CAPABILITY POLICY: BP, IMPERIAL, CHEVRON, CONOCOPHILLIPS AND MGM

1.14 CONTINGENCY PLANNING

- Reference:**
- i) IGC letter dated 21 January 2010 – resolution (C-11-1)
 - ii) D&P Regs

Preamble: In its resolution, the IGC states “The IGC continues to support the requirement for SSRW capability, or an equivalency that provides an equal or greater level of protection of the natural resources in the Inuvialuit Settlement Region.”

- Request:** In identifying the measures to both prevent and respond to a loss of well control:
- a) what methods would be used to determine whether the proposed measures would provide “an equal or greater level of protection of

the natural resources in the Inuvialuit Settlement Region” than a SSRW capability?

- b) what should be taken into account in the comparison?
- c) can equivalency be defined in terms other than “protection of natural resources”?

To: CANADIAN ASSOCIATION OF PETROLEUM PRODUCERS (CAPP)

1.15 REQUIREMENTS FROM OTHER JURISDICTIONS

Preamble: Other offshore jurisdictions (international) have requirements related to prevention of, or response to, loss of well control. These requirements may be related to equipment, procedures, personnel, evaluation methods or contingency plans, and may be in the form of regulations, policy, directives, notices and acceptable means of compliance or guidelines (the requirements).

Request: Please provide, in tabular format, a summary of the requirements for prevention of, and response to, loss of well control from the following international offshore jurisdictions:

- a) UK
- b) Norway
- c) Greenland
- d) United States
- e) Australia
- f) Brazil
- g) Russia
- h) and any other international offshore jurisdiction which has relevant requirements

To: IMPERIAL

1.16 REFERENCE TO OUTDATED REGULATIONS

- Reference:**
- i) Imperial, submission dated 22 March 2010 (C-05-6)
 - a) Section 1.2
 - b) Section 2.1
 - ii) D&P Regs

Preamble: In its submission, Imperial refers to the *Canada Oil and Gas Drilling Regulations*. These regulations were revoked on 31 December 2009 and replaced with the D&P Regs.

Request: Provide any changes/updates to the Imperial submission necessary to reflect the updated regulations.

To: IMPERIAL

1.17 GUIDANCE NOTE AND DESIRED END RESULT

Reference: i) Imperial, submission dated 22 March 2010
a) Section 1.2
b) section 2.3
ii) D&P Regs

Preamble: In section 1.2 of its submission, Imperial suggests that the NEB communicate the outcome of its policy review by issuing a guidance note related to contingency plans.

In section 2.3 of its submission, Imperial refers to a ‘desired end result’ concept and provides a suggested desired end result of relief well policy.

The regulatory objective of contingency plans is provided in section 6(j) of the D&P Regs. These plans must accompany an application for an authorization for a work or activity.

Request: Please clarify whether, or how, the ‘desired end result’ concept fits with the filing requirements related to contingency plans.

To: IMPERIAL

1.18 REGULATORY REFERENCE FOR THE ICE ISLAND

Reference: i) Imperial, submission dated 22 March 2010, Page 2-6 Factors Affecting Drilling Season (C-05-6B)

Preamble: Imperial states that the use of ice islands presented a further distinct form of a drilling platform and was used as a concept for a winter relief well capability for all drilling units operating in the landfast ice.

Request: a) Could operators consider year around operation for the relief well drilling in Arctic Waters?

- b) What limitations would apply?

To: IMPERIAL

1.19 RELIEF WELL CAPABILITY

- Reference:**
- i) Imperial, submission dated 22 March 2010 (C-05-6)
 - a) Section 1.3
 - b) Section 2.1
 - c) Section 2.3
 - d) Section 4.3
 - ii) D&P Regs, section 6(j) contingency plans

Preamble: In section 2.1 of its submission, Imperial states that there is a need for a relief well policy and that relief well capability is an important aspect of environmental protection.

Imperial submits that a relief well cannot be completed in a single season in the offshore Canadian Beaufort Sea, rendering SSRW capability impossible.

Further, in its submission, Imperial describes a 3-year drilling program and submits that a multi-year program precludes the use of SSRW capability.

- Request:**
- a) Given your position on the importance of having relief well capability, describe how a relief well could be used as a contingency during a multi-year program, including:
 - 1. The potential phases for which a relief well would be warranted;
 - 2. The methods used to identify the potential phases, including the factors considered; and
 - 3. The practicality of such an approach, including any benefits and limitations.
 - b) With such an approach, could SSRW capability be achieved for the appropriate risk phases?

To: BP

1.20 EMERGENCY RESPONSE PLANNING

- Reference:**
- i) BP's written submission dated 22 March 2010, Section I, Emergency Planning Response, paragraph 53 (C-02-2B)
 - ii) subsection 6(j) of the D&P Regs – contingency plans

Preamble: In paragraph 53, BP states that “The BP blow out contingency plan put in place becomes but one part of what would be the Emergency Response Plan for the Beaufort Sea.”

Subsection 6(j) of the D&P Regs states:

6. The application for authorization shall be accompanied by
 - (j) contingency plans, including emergency response procedures, to mitigate the effects of any reasonably foreseeable event that might compromise safety or environmental protection....

Section 19 of the D&P Regs requires that “operators take all reasonable precautions to ensure safety and protection of the environment...” An operator is, by definition, the holder of the authorization for a work or activity and is accountable and responsible for compliance with the Act and regulations.

- Request:**
- a) Please clarify what is meant by “Emergency Response Plan for the Beaufort Sea” in relation to the required contingency plans.
 - b) In light of the accountability and responsibility of the operator to ensure its work or activity is carried out in a manner that is safe and protects the environment, please clarify:
 1. whether there would be any other organizations or companies involved in the “Emergency Response Plan for the Beaufort Sea”; and
 2. their roles and responsibilities.