



September 18, 2007

(via email: dyoung@neb-one.gc.ca)

Mr. David Young
Acting Secretary
National Energy Board
444 – 7th Avenue S.W.
Calgary, Alberta T2P 0X8

Dear Mr. Young:

Re: Submission on Draft Well Spacing Requirements

Thank you for providing the Canadian Association of Petroleum Producers (CAPP) with the opportunity to review and comment on the draft well spacing requirements proposed by the National Energy Board (NEB) pursuant to section 3 of the draft *Drilling and Production Regulations*. CAPP is supportive of the concept of well spacing requirements as useful means of protecting correlative rights and promoting resource conservation in the north.

The attached table outlines our members' comments on various draft well spacing provisions and guidance notes. CAPP has also been requested to consider and comment on two options that are actively being considered by the NEB as possible alternatives to provisions presently in the draft well spacing requirements. These options are:

1. Establish the drilling target area on the basis of a 400 meter apron on gas spacing units and a 200 meter apron on oil spacing units. The approach adopted in the draft well spacing requirements of using the land division system to establish the drilling target area has an inherent unwanted oddity that arises because of the peculiar nature of the survey system.
2. Set discrete offset penalty rates at intervals 100 meters for gas wells that are drilled off-target and at 50 meter intervals for oil wells that are drilled off-target. The approach adopted in the draft well spacing requirements of calculating a precise offset penalty factor in accordance with a formula can be criticized as being needlessly complex and prone to error.

CAPP appreciates that the intent of these two options is to remedy incongruities and simplify administration. We also acknowledge that the two proposed options are comparable to the respective counterpart provisions in the draft well spacing requirements in terms of achieving similar outcomes. In this regard, CAPP would be prepared to support both options being considered by the NEB for adoption in the well spacing requirements.

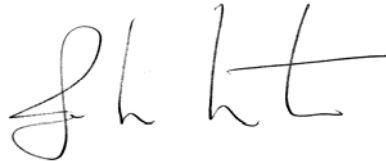
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If you have any questions, please do not hesitate to contact the undersigned (403) 267-1117. We look forward to a response to our submission, and an opportunity to offer any subsequent final comment.

Sincerely,

A handwritten signature in black ink, appearing to read "JH Masterson". The letters are cursive and somewhat stylized.

**John Masterson
Manager, Federal Regulatory Affairs**

cc: R. Paul Barnes, Canadian Association of Petroleum Producers
Jann Atkinson, National Energy Board

Attachment

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**Canadian Association of Petroleum Producers
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Section (CAN)	Regulation Text	CAPP COMMENTS	CAPP Proposed Change, if any
<p>Target Areas Guidance Notes for sections 4, 5 & 6</p>	<p><i>Target Areas Guidance Notes for sections 4, 5 & 6:</i> A target area is the central part of a spacing unit. It establishes the area in which the well bore must intersect the producing zone for the purpose of producing oil or gas.</p> <p>4. The surface area assigned to a target area shall be:</p> <p>(a) the central part of a section for a gas well;</p> <p>(b) the central part of a quarter section for an oil well.</p> <p>5. The boundary or limits assigned to a target area is the surface area assigned to the target area and:</p> <p>(a) the subsurface vertically beneath that area, or</p> <p>(b) the specific pool, geological formation, member or zone vertically beneath that area to which the target area is restricted.</p> <p>6. Subject to section 7, the proposed downhole location of a well shall be completed within the target area.</p>	<p>It is not clear what would be considered the target in a multiple sand scenario. It could be:</p> <ul style="list-style-type: none"> -- the top of the top sand; -- the top of the porosity; -- the top of the most prolific sand; -- the bottom of any of the above; or -- the average depth of any of the above. <p>For example, consider the need to drill at a 60 degree inclination through a multiple sand package. The criteria used to determine the target will make a significant difference as to where the well can be placed. CAPP recommends that clarity be provided regarding the determination of the target.</p>	
<p>Guidance Notes for Section 7</p>	<p><i>Guidance Notes for section 7:</i> An application for an approval to drill a well would be required to include a diagram showing the proposed downhole location of the well relative to the spacing unit and target area. For wells drilled within a drilling spacing unit, the operator would be required to demonstrate that the radius of uncertainty in regards to the accuracy of a deviation survey falls within the target area boundary.</p> <p>7. An application for the approval of a well shall include a diagram showing the proposed downhole location of the well bore relative to the spacing unit and target area.</p>	<p>The Guidance Notes for Section 7 state that "For wells drilled within a drilling spacing unit, the operator would be required to demonstrate that the radius of uncertainty in regards to the accuracy of a deviation survey falls within the target area boundary". CAPP recommends that the survey be treated as being definitive. CAPP acknowledges that companies should account for the uncertainty; however, companies should not be required to demonstrate that the radius of uncertainty in regard to the accuracy of a deviation survey falls within the target area boundary. The effect of the proposed requirement is that no part of the spacing unit within 1 x positional uncertainty of the survey is acceptable as a geological well target. Note that this is not normal practice in other jurisdictions in Canada where the calculated bottom-hole position of the (without consideration of survey inaccuracies, either random or systematic) is accepted for purposes of on or off-target positioning and determination.</p>	<p>Delete the following sentence in the Guidance Notes: "For wells drilled within a drilling spacing unit, the operator would be required to demonstrate that the radius of uncertainty in regards to the accuracy of a deviation survey falls within the target area boundary."</p>

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Section 9	<p>9. The Board may vary the area assigned to a spacing unit or the size or shape of the target area if the Board is satisfied that:</p> <ul style="list-style-type: none"> (a) improved recovery will be obtained, (b) additional wells are necessary to provide capacity to drain the pool at a rate that will not adversely affect the recovery from the pool, (c) increased deliverability from a gas field is desirable, (d) there is common ownership, (e) recovery will be improved while not affecting the recovery of adjacent rights holders, or (f) it is deemed necessary by the Board for the management or control of oil or gas production. 	<p>CAPP believes that the Board needs to be given explicit authority to approve variations such that two or more wells can be drilled within a conventional spacing unit. For example, more than one well may be required where the pool is faulted and/or multi-layer within a single spacing unit. Reducing the size of the spacing unit in these instances may prove an impractical or unworkable solution. Note that other jurisdictions (e.g. Alberta) have provisions that provide authority to drill two or more wells per spacing unit.</p> <p>CAPP also believes that the Board should be given authority to vary the area assigned to a spacing unit on the basis of surface-related concerns.</p>	<p>Recommend that the stem of the provision be modified to: "The Board may vary the area assigned to a spacing unit, the number of wells within a spacing unit, or the size or shape of the target area if the Board is satisfied that:"</p> <p>Recommend that a sub-section added that states: "(g) adjustments are necessary to address or accommodate surfaces rights issues."</p>
Section 10	<p>10. An application requesting a variation to the area assigned to a spacing unit or the size or shape of the target area shall include:</p> <ul style="list-style-type: none"> (g) a description of the effect on the recovery of oil and gas of the proposed variation to the area assigned to the spacing unit or the location and/or size of the target area; 	<p>CAPP is concerned that proprietary company information related to reserves and the recovery of reserves may be disclosed in the public domain. Such disclosure would jeopardize companies' competitive position.</p>	<p>Adopt confidentiality provisions or otherwise ensure existing confidentiality provisions protect Section 10(g) information from being disclosed in the public domain.</p>
Section 11	<p>11. If the downhole location of a well is completed outside of its target area, the permitted production rate for that well shall be reduced by an off-target penalty factor</p> <ul style="list-style-type: none"> (a) The off-target penalty factor is determined by the minimum horizontal distance, measured in metres, from the nearest target area boundary to the nearest spacing unit boundary, and is calculated using the following formula: penalty factor = $0.9 * (d1 / d2) - 1.8 * (d1 / d2) + 1$ where, d1 is the distance from the well's downhole location to the nearest target area boundary, and d2 is the distance from the nearest target area boundary to the nearest spacing unit boundary. (b) The maximum permitted sustained peak oil or gas withdrawal rate shall be calculated using the following formula: 	<p>CAPP believes the penalty factor is stated incorrectly.</p>	<p>Square the first occurrence of (d1/d2).</p>

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	<p>$q(\text{well}) = q(\text{pool}) * \text{penalty factor}$ where, $q(\text{pool})$ is the sustained peak oil or gas withdrawal rate from the entire pool averaged to the number of production wells over a period of three months, and, $q(\text{well})$ is the maximum permitted sustained peak oil or gas withdrawal.</p>		
Section 13	<p>13. The Board may waive the off-target penalty for a well drilled off-target in a pool where there is common ownership and the Board is satisfied that the off-target well would not adversely affect the recovery from the pool.</p>	<p>CAPP believes that waiving the off-target penalty only in circumstances where the entire pool is under common ownership is too onerous.</p>	<p>CAPP recommends that the Board be given authority to waive the off-target penalty in circumstances where the drilling spacing unit in question and the adjacent drilling spacing unit are in common ownership.</p>