



File Ad-GA-RG-COGDPR-02  
23 July 2010

To: All Potentially Interested Parties

**Stakeholder Comment Period  
Draft Spacing Requirements and  
Draft Guidance Notes – Onshore Northwest Territories**

The *Canada Oil and Gas Drilling and Production Regulations (COGDPR)*, SOR/2009-0315, came into force on 31 December 2009. Section 2 of the COGDPR provides the National Energy Board with authority to establish orders necessary for the management and control of oil or gas production. Section 2 states:

2. The Board is authorized to make orders respecting the allocation of areas, including the determination of the size of spacing units and the well production rates for the purpose of drilling for or producing oil and gas and to exercise any powers and perform any duties that may be necessary for the management and control of oil or gas production.

The draft spacing requirements would apply only to onshore Northwest Territories. They are intended to promote joint production arrangements, enable optimal recovery of oil and gas, and protect correlative oil and gas rights through the prescription of the size of spacing units, off-target areas and the off-target area penalty factors. These requirements apply only to development drilling and establish rules to promote equity over production practices, not safety and environmental protection with respect to drilling practices; they do not authorize the drilling of any well. Any development drilling would require an approval of a development plan and separate authorizations and approvals, at which time safety and environmental protection would be considered.

The Board issued drafts of the spacing requirements for stakeholder comment on 5 April 2007 and on 31 December 2009. In the 31 December 2009 draft, protection of the correlative interests of royalty owners was included in addition to the protection of correlative rights of working interest owners. Since December 2009, the draft spacing requirements has been narrowed in scope to apply only to the onshore Northwest Territories at this time.

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In light of the inclusion of protection for royalty interest owners' interests and the narrowing of the scope of the spacing requirements, the Board has decided to release the latest draft spacing requirements (Attachment 1) and the associated draft guidance notes (Attachment 2) for additional stakeholder comment. It is anticipated spacing requirements will be issued as an order in the future following the stakeholder comment period and consideration of any comments received.

The Board welcomes any comments on the draft spacing requirements. Comments should be provided by Friday, 1 October 2010 and can be submitted by email, fax or mail. Please submit all comments to:

Anne-Marie Erickson  
Secretary of the Board  
National Energy Board  
444 Seventh Avenue S.W.  
Calgary, AB T2P 0X8  
Email [secretary@neb-one.gc.ca](mailto:secretary@neb-one.gc.ca)  
Facsimile 403-292-5503

Please identify your written comments to the Secretary with "*Comment process for the draft spacing requirements*".

If you have any questions on the draft spacing requirements, please contact the Project Manager, Gary Woo, at 403-299-3143, toll free at 1-800-899-1265, or via email at [gary.woo@neb-one.gc.ca](mailto:gary.woo@neb-one.gc.ca). For communications in French, please contact Ken Fortin at 403-299-3195, toll free at 1-800-899-1265, or via email at [ken.fortin@neb-one.gc.ca](mailto:ken.fortin@neb-one.gc.ca).

Yours truly,



Anne-Marie Erickson  
Secretary of the Board



Attachments

## **National Energy Board**

### **Draft Spacing Requirements for Comment**

**July 2010**

#### **Part I – Application**

1. These spacing requirements by the National Energy Board (the Board) establish the standard spacing requirements for producing wells located onshore Northwest Territories.

#### **Part II – Land**

2. “Freehold lands” means lands that are not frontier lands and in which the *Canada Petroleum Resources Act*, R.S.C. 1985, c. 36 does not apply.
3. “Common ownership” with respect to lands, means that all lands have the same working interest owners and the same royalty owners.
4. “Joint production arrangements” means the working interest owners and/or the royalty owners have entered into an acceptable joint production agreement such as a unit agreement, a unit operating agreement or a pooling agreement.
5. A “production block” means contiguous frontier and/or freehold lands:
  - (a) where the rights to produce oil and gas from those land have been granted; and,
  - (b) have common ownership or joint production arrangements.

#### **Part III - Spacing Units**

6. The standard spacing unit for a producing gas well is the surface area comprising one section, as shown in Figure 1.
7. The standard spacing unit for a producing oil well is the surface area comprising a quarter section (four units in the form of a square with one corner being the centre of the section in which the units are situated), as shown in Figure 1.
8. The boundary or limit assigned to a spacing unit is the surface area assigned to the spacing unit and the subsurface vertically, to any depth, beneath that area.

#### **Part IV – Off-Target Areas**

9. The gas off-target area is the area less than 250 metres from the perimeter boundary of a production block that is adjacent to land with different ownership or to Crown reserve lands.

An example of a gas off-target area for a one spacing unit production block is provided in Figure 1. An example of a gas off-target area for a multi-spacing unit production block is provided in Figure 2.

10. The oil off-target area is the area less than 100 metres from the perimeter boundary of a production block that is adjacent to land with different ownership or to Crown reserve lands.

Examples of an oil off-target area for a one spacing unit production block are provided in Figure 1. An example of an oil off-target area for a multi-spacing unit production block is provided in Figure 3.

11. The boundary or limit assigned to the off-target areas is the surface area assigned to the off-target area and the subsurface vertically, to any depth, beneath that area.
12. A spacing unit in a production block that contains the off-target area shall have only one producing well per pool unless a variance is granted by the Board under Part VII.
13. A producing delineation or development well with a bottom-hole location of the completion interval inside the off-target area shall be subject to an off-target area penalty factor as outlined in Part VI unless a variance is granted by the Board in accordance with Part VII.
14. A spacing unit that does not contain an off-target area for a production block will not be restricted to one producing well per pool; however, good production practices are expected to be followed.
15. Producing wells inside a spacing unit that does not contain an off-target area for a production block will not have restrictions on the bottom-hole location of the completion interval within the spacing unit; however, good production practices are expected to be followed.

16. If the off-target areas change as a result of a change in ownership, the affected producing wells will be required to be compliant with Part IV unless a variance is granted by the Board in accordance with Part VII.
17. For a well with commingled production, the well will be treated as if it were separate wells in each pool that is commingled and will be required to be compliant with Part IV unless a variance is granted by the Board in accordance with Part VII.
18. Any producing wells that commenced drilling or recompletion operations prior to the date of this Order coming into force shall be deemed to be compliant with Part IV.

#### **Part V – Well Approvals**

19. In addition to the requirements outlined in section 12 of the *Canada Oil and Gas Drilling and Production Regulations* for an application for a well approval, the Board may request a diagram showing the proposed bottom-hole location of the completion interval relative to off-target areas for a producing well.

#### **Part VI – Permitted Monthly Production Volumes and Off-target Area Penalty Factors**

20. The permitted oil or gas monthly production volumes for a producing delineation or development well with a bottom-hole location of the completion interval inside the off-target area will be calculated by the Board using the following formula:

$$Q_{\text{well}} = Q_{\text{pool}} \times [ 1.0 - (\text{off-target area penalty factor}) ]$$

$Q_{\text{well}}$  is the permitted oil or gas monthly production volumes for a producing delineation or development well with a bottom-hole location of the completion interval inside the off-target area.

$Q_{\text{pool}}$  is the average oil or gas monthly production volumes per well for the entire pool calculated over the latest three-month period; or, if the delineation or development well subject to the off-target area penalty factor will be the only producing well in the pool,  $Q_{\text{pool}}$  will be the peak sustained daily production rate obtained from a formation flow test conducted on the well multiplied by 30 days.  $Q_{\text{pool}}$  may be recalculated periodically as deemed appropriate by the Board.

Off-target area penalty factor for producing gas and oil delineation and development wells are as follows.

Gas Wells - The off-target area penalty factor for producing gas delineation and development wells will be as follows, and as shown in Figure 4:

1. 0.25, if the bottom-hole location of the completion interval is more than or equal to ( $\geq$ ) 200 metres from the production block perimeter boundary and less than ( $<$ ) 250 metres from the production block perimeter boundary;
2. 0.50, if the bottom-hole location of the completion interval is more than or equal to ( $\geq$ ) 125 metres from the production block perimeter boundary and less than ( $<$ ) 200 metres from the production block perimeter boundary;
3. 0.75, if the bottom-hole location of the completion interval is more than or equal to ( $\geq$ ) 50 metres from the production block perimeter boundary and less than ( $<$ ) 125 metres from the production block perimeter boundary; or,
4. 0.90, if the bottom-hole location of the completion interval is less than ( $<$ ) 50 metres from the production block perimeter boundary.

Oil Wells - The off-target area penalty factor for oil delineation and development wells will be as follows, and as shown in Figure 5:

1. 0.25, if the bottom-hole location of the completion interval is more than or equal to ( $\geq$ ) 80 metres from the production block perimeter boundary and less than ( $<$ ) 100 metres from the production block perimeter boundary;
2. 0.50, if the bottom-hole location of the completion interval is more than or equal to ( $\geq$ ) 50 metres from the production block perimeter boundary and less than ( $<$ ) 80 metres from the production block perimeter boundary;
3. 0.75, if the bottom-hole location of the completion interval is more than or equal to ( $\geq$ ) 20 metres from the production block perimeter boundary and less than ( $<$ ) 50 metres from the production block perimeter boundary; or,
4. 0.90, if the bottom-hole location of the completion interval is less than ( $<$ ) 20 metres from the production block perimeter boundary.

21. The bottom-hole location of the completion interval closest to the production block perimeter boundary as indicated by the directional and deviation surveys will be used by the Board to determine:

- (a) if the completion interval is inside the off-target area; and,
- (b) the off-target area penalty factor should the completion interval be inside the off-target area.

Directional and deviation survey requirements for a well are outlined in section 32 of the *Canada Oil and Gas Drilling and Production Regulations*.

22. If the permitted oil or gas monthly production volumes for a producing delineation or development well with a bottom-hole location of the completion interval inside the off-target area is not complied with, the Board may suspend and revoke the well approval in accordance with section 14 of the *Canada Oil and Gas Drilling and Production Regulations*.
23. The Board's decision on off-target area penalty factor and the permitted oil or gas monthly production volumes ( $Q_{\text{well}}$ ) for a producing delineation or development well with a bottom-hole location of the completion interval inside the off-target area will be publicly available.
24. An exploratory well with a bottom-hole location of the completion interval inside the off-target area shall have an off-target area penalty factor equal to zero (0.00).

### **Part VII – Variance to the Spacing Requirements**

25. An operator may apply to the Board for a variance to the spacing requirements, including requesting:
  - (a) a change in the size of a specific spacing unit;
  - (b) a change in the shape of the off-target area;
  - (c) more than one producing well in a specific spacing unit in a production block that contains the off-target area; or,
  - (d) an off-target area penalty factor equal to zero (0.00) for a delineation or development well with a bottom-hole location of the completion interval inside the off-target area.
26. The Board may grant the operator a variance to the spacing requirements if the Board is satisfied that:
  - (a) the subject lands have common ownership;
  - (b) joint production arrangement agreements on the subject lands have been made;
  - (c) more than one producing well in a spacing unit that contains the off-target area is needed to optimize the recovery of oil and gas because of such things as, but not limited to, low permeability, poor reservoir characteristics, the existence of structural faults and/or stratigraphic barriers within the spacing unit;
  - (d) a well located in the off-target area is needed to optimize the recovery of oil and gas because of such things as, but not limited to, low permeability, poor reservoir characteristics, the existence of structural faults and/or stratigraphic barriers within the spacing unit;
  - (e) the recovery of oil and gas from adjacent lands with different ownership or Crown reserve lands will not be affected; or,
  - (f) it is deemed necessary by the Board for the management or control of oil or gas production.

27. An application to the Board requesting a variance in the spacing requirements should include the following, as applicable:
- (a) a description of and reasons for the proposed variance;
  - (b) a legal description of the lands that are the subject of the application;
  - (c) the names of the fields, pools and/or zones that are the subject of the application;
  - (d) a list of licences, leases, permits, and/or freehold rights with the working interest owners and royalty owners of the subject land and adjacent land;
  - (e) the details of any joint production arrangements, which may include a list of participants, confirmation letters from participants and/or copies of the agreements;
  - (f) maps showing:
    - 1. the proposed variance and the boundaries of licences, leases, permits and/or freehold rights of the subject land and adjacent land including Crown reserve lands,
    - 2. any wells and the status of each well in the subject land and adjacent lands, and,
    - 3. any structural or stratigraphic barriers on the subject land;
  - (g) production history of any wells on the subject land and adjacent land;
  - (h) a description of the reservoir characteristics, geology and geophysics of the subject land; and,
  - (i) any other information that the Board may require.
28. The Board's decision granting a variance to the spacing requirements and the reasons for the variance will be publicly available.

### **Part VIII – Glossary**

“barrier” means any fluid, plug or seal that prevents gas or oil or any other fluid from flowing unintentionally from a well or from a formation into another formation (section 1 of the *Canada Oil and Gas Drilling and Production Regulations*).

“Board” means the National Energy Board established by sections 3 and 4 of the *National Energy Board Act*, R.S.C. 1985, c. N-6.

“commingled production” means production of oil and gas from more than one pool or zone through a common well-bore or flow line without separate measurement of the production from each pool or zone (section 1 of the *Canada Oil and Gas Drilling and Production Regulations*).

“completion interval” means a section within a well that is prepared to permit the

- (a) production of fluids from the well;
- (b) observation of the performance of a reservoir; or

- (c) injection of fluids into the well (section 1 of the *Canada Oil and Gas Drilling and Production Regulations*).

“Crown reserve lands” means frontier lands in respect of which no interest is in force (section 2 of the *Canada Petroleum Resources Act*).

“delineation well” means a well that is so located in relation to another well penetrating an accumulation of petroleum that there is a reasonable expectation that another portion of that accumulation will be penetrated by the first-mentioned well and that the drilling is necessary in order to determine the commercial value of the accumulation (section 101 of the *Canada Petroleum Resources Act*).

“development well” means a well that is so located in relation to another well penetrating an accumulation of petroleum that it is considered to be a well or part of a well drilled for the purpose of production or observation or for the injection or disposal of fluid into or from the accumulation (section 101 of the *Canada Petroleum Resources Act*).

“exploratory well” means a well drilled on a geological feature on which a significant discovery has not been made (section 101 of the *Canada Petroleum Resources Act*).

"field" (a) means a general surface area underlain or appearing to be underlain by one or more pools, and (b) includes the subsurface regions vertically beneath the general surface area referred to in paragraph (a); (section 1 of the *Canada Oil and Gas Operations Act*).

“formation flow test” means an operation

- (a) to induce the flow of formation fluids to the surface of a well to procure reservoir fluid samples and determine reservoir flow characteristics; or
  - (b) to inject fluids into a formation to evaluate injectivity
- (section 1 of the *Canada Oil and Gas Drilling and Production Regulations*).

“frontier lands” means lands that belong to Her Majesty in right of Canada, or in respect of which Her Majesty in right of Canada has the right to dispose of or exploit the natural resources, and that are situated in

- (a) the Northwest Territories, Nunavut or Sable Island, or
- (b) submarine areas, not within a province, in the internal waters of Canada, the territorial sea of Canada or the continental shelf of Canada,

but does not include the adjoining area, as defined in section 2 of the Yukon Act (section 2 of the *Canada Petroleum Resources Act*).

“grid unit” means an area described as a “unit” in section 8 of the *Canada Oil and Gas Land Regulations* C.R.C. 1978, c.1518.

“lease” means an oil and gas lease issued pursuant to regulations made in accordance with the *Territorial Lands Act* and the *Public Lands Grants Act* and includes a production licence issued under the *Canada Petroleum Resources Act*; (section 2 of the *Canada Oil and Gas Operations Act*).

“operator” means a person that holds an operating licence under paragraph 5(1)(a) of the *Canada Oil and Gas Operations Act* and an authorization under paragraph 5(1)(b) (section 1 of the *Canada Oil and Gas Drilling and Production Regulations*).

“permit” means an exploratory oil and gas permit issued pursuant to regulations made in accordance with the *Territorial Lands Act* and the *Public Lands Grants Act* and includes an exploration agreement entered into under the *Canada Oil and Gas Land Regulations* and any exploration agreement or licence that is subject to the *Canada Petroleum Resources Act*; (section 2 of the *Canada Oil and Gas Operations Act*).

"pool" means a natural underground reservoir containing or appearing to contain an accumulation of oil or gas or both oil and gas and being separated or appearing to be separated from any other such accumulation (section 1 of the *Canada Oil and Gas Operations Act*).

"pooling agreement" means an agreement to pool the interests of owners in a spacing unit and to provide for the operation or the drilling and operation of a well thereon (section 29 of the *Canada Oil and Gas Operations Act*).

“production licence” has the same meaning as in subsection 37(1) of the *Canada Petroleum Resources Act*.

“recovery” means the recovery of oil and gas under reasonably foreseeable economic and operational conditions (section 1 of the *Canada Oil and Gas Drilling and Production Regulations*).

"royalty interest" means any interest in, or the right to receive a portion of, any oil or gas produced and saved from a field or pool or part of a field or pool or the proceeds from the sale thereof, but does not include a working interest or the interest of any person whose sole interest is as a purchaser of oil or gas from the pool or part thereof (section 29 of the *Canada Oil and Gas Operations Act*).

“royalty owner” means a person, including Her Majesty in right of Canada, who owns a royalty interest (section 29 of the *Canada Oil and Gas Operations Act*).

“section” has the same meaning as in section 7 of the *Canada Oil and Gas Land Regulations*.

“spacing unit” means the area allocated to a well for the purpose of drilling for or producing oil or gas (section 29 of the *Canada Oil and Gas Operations Act*).

“unit” has the same meaning as in section 8 of the *Canada Oil and Gas Land Regulations*.

“unit agreement” means an agreement to unitize the interests of owners in a pool or a part of a pool exceeding in area a spacing unit, or such an agreement as varied by a unitization order (section 29 of the *Canada Oil and Gas Operations Act*).

“unit operating agreement” means an agreement, providing for the management and operation of a unit area and a unitized zone, that is entered into by working interest owners who are parties to a unit agreement with respect to that unit area and unitized zone, and includes a unit operating agreement as varied by a unitization order (section 29 of the *Canada Oil and Gas Operations Act*).

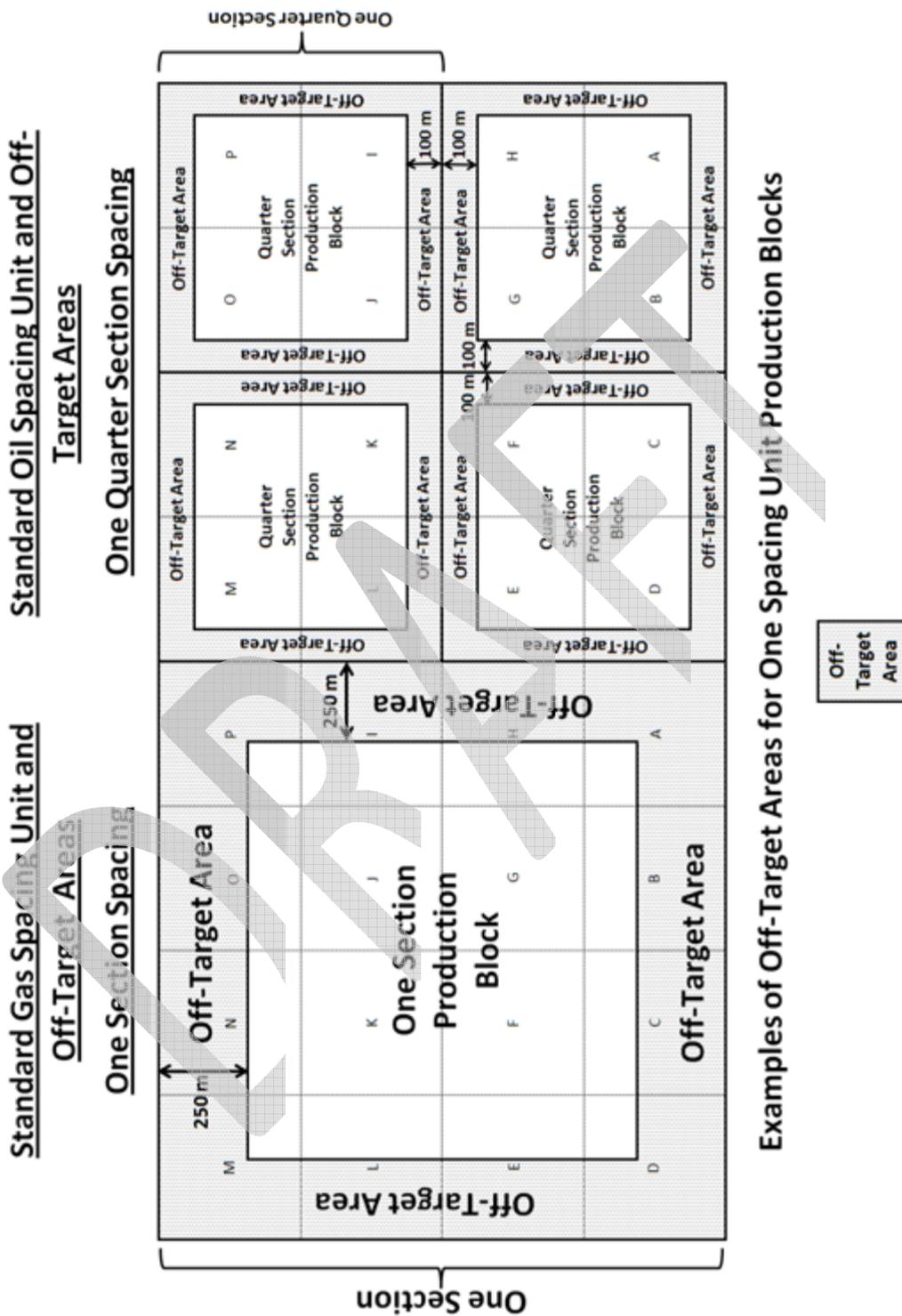
“well approval” means an approval granted by the Board under section 13 of the *Canada Oil and Gas Drilling and Production Regulations*.

“working interest” means a right, in whole or in part, to produce and dispose of oil or gas from a pool or part of a pool, whether that right is held as an incident of ownership of an estate in fee simple in the oil or gas or under a lease, agreement or other instrument, if the right is chargeable with and the holder thereof is obligated to pay or bear, either in cash or out of production, all or a portion of the costs in connection with the drilling for, recovery and disposal of oil or gas from the pool or part thereof (section 29 of the *Canada Oil and Gas Operations Act*).

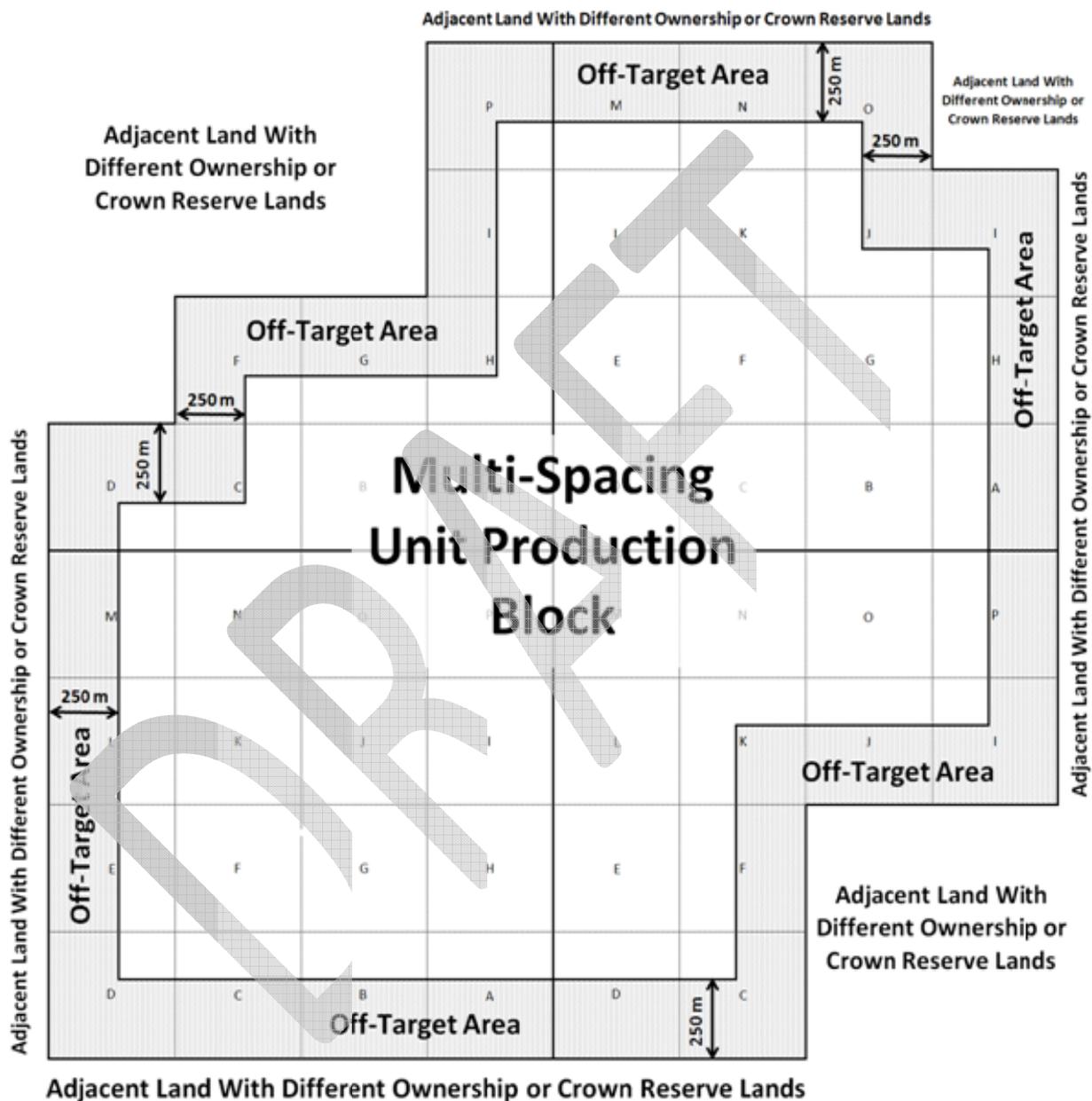
“working interest owner” means a person who owns a working interest (section 29 of the *Canada Oil and Gas Operations Act*).

“zone” means any stratum or any sequence of strata designated as a zone by the Board pursuant to section 4 of the *Canada Oil and Gas Drilling and Production Regulations*.

**Figure 1: COGOA Standard Spacing Units and Off-Target Zones**

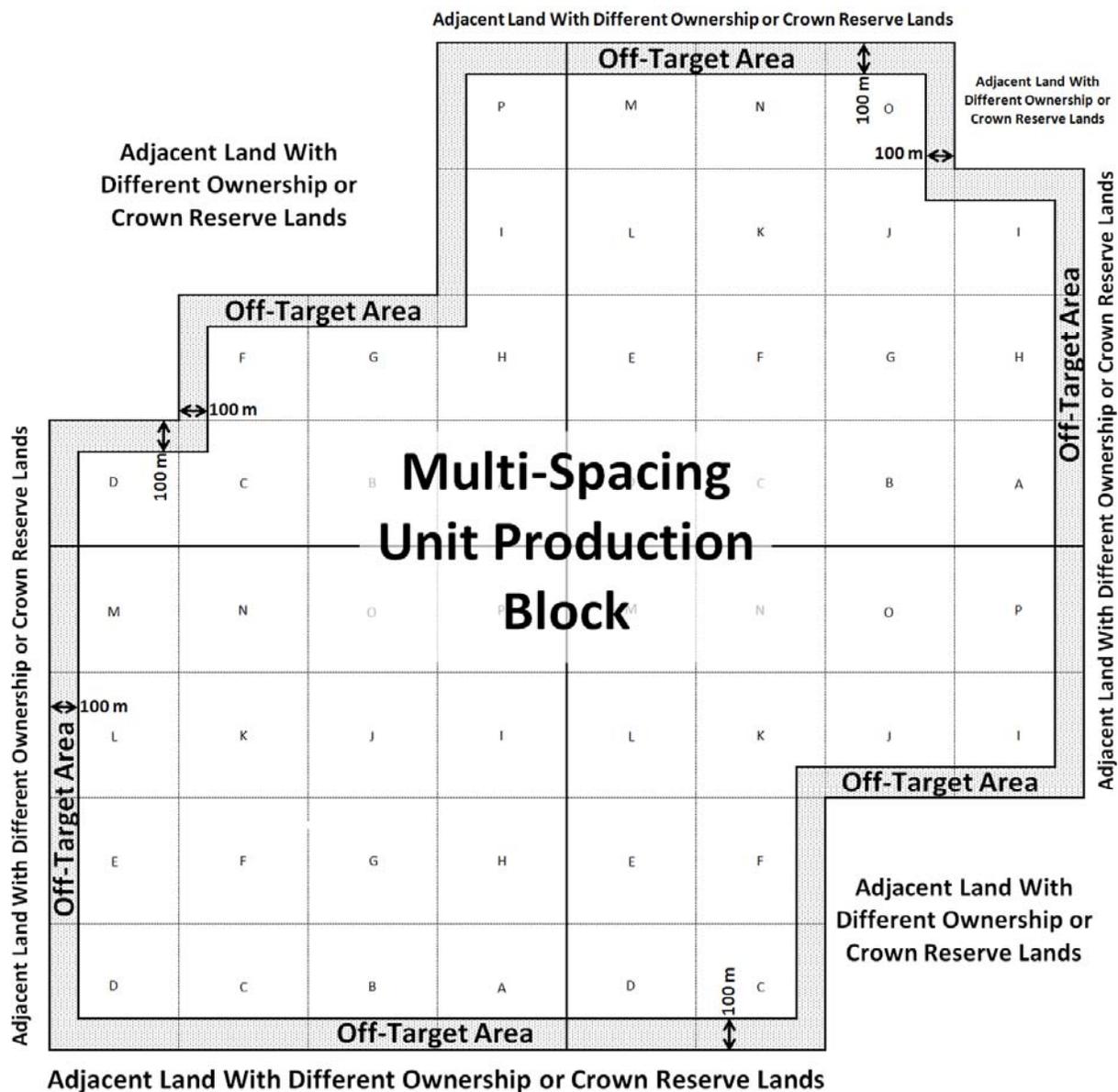


**Figure 2: Example of a Gas Off-Target Area on a  
Multi-Spacing Unit Production Block**



Off-Target Area

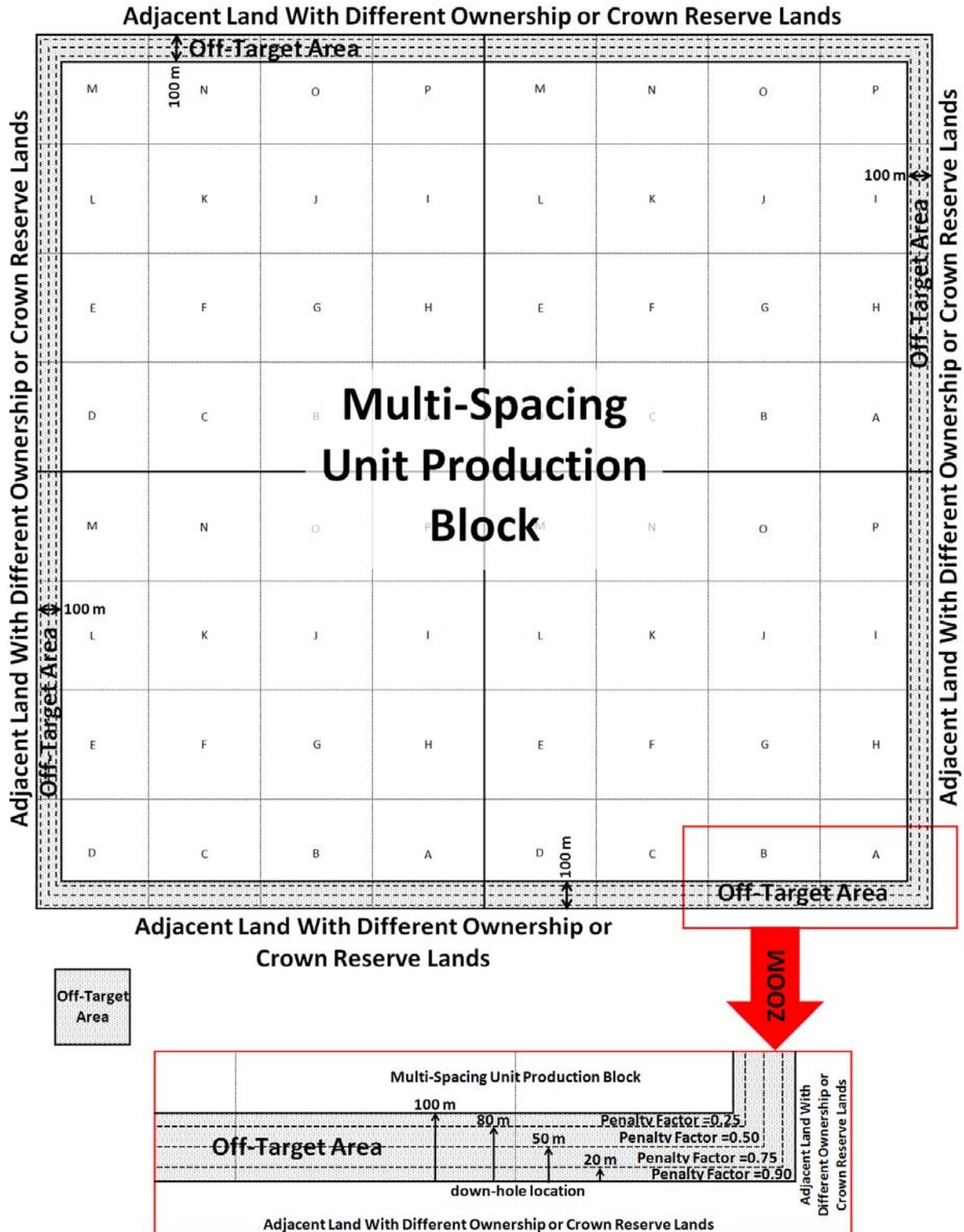
**Figure 3: Example of an Oil Off-Target Area on a Multi-Spacing Unit Production Block**



Off-Target Area



**Figure 5: Oil Off-Target Area Penalty Factors**



**National Energy Board**

**Draft Guidance Notes for Draft Spacing Requirements for Comment**

**July 2010**

**Part I – Application**

1. **These spacing requirements by the National Energy Board (the Board) establish the standard spacing requirements for producing wells located onshore Northwest Territories.**

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Guidance Notes

These spacing requirements establish the standard spacing requirements for producing wells onshore Northwest Territories with the purpose of: enabling the optimal recovery of oil and gas while protecting the correlative rights of subsurface working interest owners and royalty owners; and, promoting joint production arrangements.

Section 2 of the *Canada Oil and Gas Drilling and Production Regulations* also allows the Board to issue additional spacing orders in the future to outline spacing requirements tailored to the reservoir characteristics of certain geographic regions and/or of certain geological zones.

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**Part II – Land**

2. **“Freehold lands” means lands that are not frontier lands and in which the *Canada Petroleum Resources Act*, R.S.C. 1985, c. 36 does not apply.**

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Guidance Notes

- The Spacing Requirements apply to onshore Northwest Territories whether the lands are frontier lands or freehold lands.
- Exploration licences, significant discovery licences and production licences may be issued on frontier lands.
- Freehold lands may also commonly be referred to as concession lands.

3. **“Common ownership” with respect to lands, means that all lands have the same working interest owners and the same royalty owners.**

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Guidance Notes

The Order is intended to protect the correlative rights of working interest owners and royalty owners.

4. **“Joint production arrangements” means the working interest owners and/or the royalty owners have entered into an acceptable joint production agreement such as a unit agreement, a unit operating agreement or a pooling agreement.**

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Guidance Notes

An acceptable joint production agreement may also be an agreement between the working interest owners and/or royalty owners of adjacent land allowing a producing well to be located within the off-target area. The off-target area is a term defined in Part IV of the Order.

5. A **“production block” means contiguous frontier and/or freehold lands:**
- (a) **where the rights to produce oil and gas from those land have been granted; and,**
  - (b) **have common ownership or joint production arrangements.**

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Guidance Notes

A production block is a key term defined in the Order and will be used to determine an off-target area as defined in Part IV of the Order. Rights under a production licence include the exclusive right to produce petroleum from those frontier lands.

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**Part III - Spacing Units**

6. **The standard spacing unit for a producing gas well is the surface area comprising one section, as shown in Figure 1.**

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Guidance Notes

The standard spacing unit for gas wells is one section of land, which is roughly a 1.6 kilometre by 1.6 kilometre area.

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- 7. The standard spacing unit for a producing oil well is the surface area comprising a quarter section (four units in the form of a square with one corner being the centre of the section in which the units are situated), as shown in Figure 1.**
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Guidance Notes

The standard spacing unit for oil wells is one quarter section of land, which is roughly a 0.8 kilometre by 0.8 kilometre area.

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- 8. The boundary or limit assigned to a spacing unit is the surface area assigned to the spacing unit and the subsurface vertically, to any depth, beneath that area.**

**Part IV – Off-Target Areas**

- 9. The gas off-target area is the area less than 250 metres from the perimeter boundary of a production block that is adjacent to land with different ownership or to Crown reserve lands.**

**An example of a gas off-target area for a one spacing unit production block is provided in Figure 1. An example of a gas off-target area for a multi-spacing unit production block is provided in Figure 2.**

- 10. The oil off-target area is the area less than 100 metres from the perimeter boundary of a production block that is adjacent to land with different ownership or to Crown reserve lands.**

**Examples of an oil off-target area for a one spacing unit production block are provided in Figure 1. An example of an oil off-target area for a multi-spacing unit production block is provided in Figure 3.**

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Guidance Notes

The off-target area is another key term defined in the Order. The off-target area will serve as a buffer between development within the production block and adjacent lands with different ownership or Crown reserve lands.

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- 11. The boundary or limit assigned to the off-target areas is the surface area assigned to the off-target area and the subsurface vertically, to any depth, beneath that area.**
  - 12. A spacing unit in a production block that contains the off-target area shall have only one producing well per pool unless a variance is granted by the Board under Part VII.**
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Guidance Notes

Unless the Board grants a variance under Part VII of the Order, there shall only be one producing well per pool allowed in those spacing units of a production block that are adjacent to lands with different ownership or Crown reserve lands (those spacing units of a production block that contain the off-target area). This restriction exists notwithstanding the classification of the producing well (i.e., whether it is an exploratory, a delineation or a development well).

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- 13. A producing delineation or development well with a bottom-hole location of the completion interval inside the off-target area shall be subject to an off-target area penalty factor as outlined in Part VI unless a variance is granted by the Board in accordance with Part VII.**
  - 14. A spacing unit that does not contain an off-target area for a production block will not be restricted to one producing well per pool; however, good production practices are expected to be followed.**
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Guidance Notes

This provides an operator with flexibility to have more than one producing well per pool in an interior spacing unit of a production block (a spacing unit that does not contain an off-target area) without the requirement for a variance under Part IV. Note that the Board has authority to approve wells and would take production practices into account.

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- 15. Producing wells inside a spacing unit that does not contain an off-target area for a production block will not have restrictions on the bottom-hole location of the completion interval within the spacing unit; however, good production practices are expected to be followed.**

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Guidance Notes

This provides an operator with flexibility to have the bottom-hole location of the completion interval of producing wells anywhere inside an interior spacing unit of a production block (a spacing unit that does not contain an off-target area) without the requirement for a variance under Part IV. Note that the Board has authority to approve wells and would take production practices into account.

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- 16. If the off-target areas change as a result of a change in ownership, the affected producing wells will be required to be compliant with Part IV unless a variance is granted by the Board in accordance with Part VII.**
- 17. For a well with commingled production, the well will be treated as if it were separate wells in each pool that is commingled and will be required to be compliant with Part IV unless a variance is granted by the Board in accordance with Part VII.**
- 18. Any producing wells that commenced drilling or recompletion operations prior to the date of this Order coming into force shall be deemed to be compliant with Part IV.**

**Part V – Well Approvals**

- 19. In addition to the requirements outlined in section 12 of the *Canada Oil and Gas Drilling and Production Regulations* for an application for a well approval, the Board may request a diagram showing the proposed bottom-hole location of the completion interval relative to off-target areas for a producing well.**

**Part VI – Permitted Monthly Production Volumes and  
Off-target Area Penalty Factors**

- 20. The permitted oil or gas monthly production volumes for a producing delineation or development well with a bottom-hole location of the completion interval inside the off-target area will be calculated by the Board using the following formula:**

$$Q_{\text{well}} = Q_{\text{pool}} \times [ 1.0 - (\text{off-target area penalty factor}) ]$$

**$Q_{\text{well}}$**  is the permitted oil or gas monthly production volumes for a producing delineation or development well with a bottom-hole location of the completion interval inside the off-target area.

**$Q_{\text{pool}}$**  is the average oil or gas monthly production volumes per well for the entire pool calculated over the latest three-month period; or, if the delineation or development well subject to the off-target area penalty factor will be the only producing well in the pool,  **$Q_{\text{pool}}$**  will be the peak sustained daily production rate obtained from a formation flow test conducted on the well multiplied by 30 days.  **$Q_{\text{pool}}$**  may be recalculated periodically as deemed appropriate by the Board.

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Guidance Notes

The restriction on production for a producing delineation or development well with a bottom-hole location of the completion interval inside the off-target area is based on monthly production volumes. This provides the operator of an off-target area well with some flexibility in meeting  $Q_{\text{well}}$  when emergency facilities and pipeline shut-downs occur.

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**Off-target area penalty factor for producing gas and oil delineation and development wells are as follows.**

**Gas Wells - The off-target area penalty factor for producing gas delineation and development wells will be as follows, and as shown in Figure 4:**

- 1. 0.25, if the bottom-hole location of the completion interval is more than or equal to ( $\geq$ ) 200 metres from the production block perimeter boundary and less than ( $<$ ) 250 metres from the production block perimeter boundary;**
- 2. 0.50, if the bottom-hole location of the completion interval is more than or equal to ( $\geq$ ) 125 metres from the production block perimeter boundary and less than ( $<$ ) 200 metres from the production block perimeter boundary;**
- 3. 0.75, if the bottom-hole location of the completion interval is more than or equal to ( $\geq$ ) 50 metres from the production block perimeter boundary and less than ( $<$ ) 125 metres from the production block perimeter boundary; or,**
- 4. 0.90, if the bottom-hole location of the completion interval is less than ( $<$ ) 50 metres from the production block perimeter boundary.**

**Oil Wells - The off-target area penalty factor for oil delineation and development wells will be as follows, and as shown in Figure 5:**

- 1. 0.25, if the bottom-hole location of the completion interval is more than or equal to ( $\geq$ ) 80 metres from the production block perimeter boundary and**

- less than ( $<$ ) 100 metres from the production block perimeter boundary;
2. 0.50, if the bottom-hole location of the completion interval is more than or equal to ( $\geq$ ) 50 metres from the production block perimeter boundary and less than ( $<$ ) 80 metres from the production block perimeter boundary;
3. 0.75, if the bottom-hole location of the completion interval is more than or equal to ( $\geq$ ) 20 metres from the production block perimeter boundary and less than ( $<$ ) 50 metres from the production block perimeter boundary; or,
4. 0.90, if the bottom-hole location of the completion interval is less than ( $<$ ) 20 metres from the production block perimeter boundary.

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Guidance Notes

The off-target area penalty factor increases in a stepwise manner from 0.25 to 0.90 as the bottom-hole location of the completion interval approaches the production block perimeter boundary. As the off-target area penalty factor increases the permitted oil or gas monthly production volumes ( $Q_{\text{well}}$ ) for the penalized well will decrease.

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21. The bottom-hole location of the completion interval closest to the production block perimeter boundary as indicated by the directional and deviation surveys will be used by the Board to determine:
  - (a) if the completion interval is inside the off-target area; and,
  - (b) the off-target area penalty factor should the completion interval be inside the off-target area.

Directional and deviation survey requirements for a well are outlined in section 32 of the *Canada Oil and Gas Drilling and Production Regulations*.

22. If the permitted oil or gas monthly production volumes for a producing delineation or development well with a bottom-hole location of the completion interval inside the off-target area is not complied with, the Board may suspend and revoke the well approval in accordance with section 14 of the *Canada Oil and Gas Drilling and Production Regulations*.
23. The Board's decision on off-target area penalty factor and the permitted oil or gas monthly production volumes ( $Q_{\text{well}}$ ) for a producing delineation or development well with a bottom-hole location of the completion interval inside the off-target area will be publicly available.
24. An exploratory well with a bottom-hole location of the completion interval inside the off-target area shall have an off-target area penalty factor equal to zero (0.00).

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Guidance Notes

Exploratory wells will have an off-target area penalty factor of zero because these wells were drilled before a discovery was made.

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**Part VII – Variance to the Spacing Requirements**

- 25. An operator may apply to the Board for a variance to the spacing requirements, including requesting:**
- (a) a change in the size of a specific spacing unit;**
  - (b) a change in the shape of the off-target area;**
  - (c) more than one producing well in a specific spacing unit in a production block that contains the off-target area; or,**
  - (d) an off-target area penalty factor equal to zero (0.00) for a delineation or development well with a bottom-hole location of the completion interval inside the off-target area.**
- 26. The Board may grant the operator a variance to the spacing requirements if the Board is satisfied that:**
- (a) the subject lands have common ownership;**
  - (b) joint production arrangement agreements on the subject lands have been made;**
  - (c) more than one producing well in a spacing unit that contains the off-target area is needed to optimize the recovery of oil and gas because of such things as, but not limited to, low permeability, poor reservoir characteristics, the existence of structural faults and/or stratigraphic barriers within the spacing unit;**
  - (d) a well located in the off-target area is needed to optimize the recovery of oil and gas because of such things as, but not limited to, low permeability, poor reservoir characteristics, the existence of structural faults and/or stratigraphic barriers within the spacing unit;**
  - (e) the recovery of oil and gas from adjacent lands with different ownership or Crown reserve lands will not be affected; or,**
  - (f) it is deemed necessary by the Board for the management or control of oil or gas production.**
- 27. An application to the Board requesting a variance in the spacing requirements should include the following, as applicable:**
- (a) a description of and reasons for the proposed variance;**
  - (b) a legal description of the lands that are the subject of the application;**

- (c) the names of the fields, pools and/or zones that are the subject of the application;
- (d) a list of licences, leases, permits and/or freehold rights with the working interest owners and royalty owners of the subject land and adjacent land;
- (e) the details of any joint production arrangements, which may include a list of participants, confirmation letters from participants and/or copies of the agreements;
- (f) maps showing:
  - 1. the proposed variance and the boundaries of licences, leases, permits, and/or freehold rights of the subject land and adjacent land including Crown reserve lands,
  - 2. any wells and the status of each well in the subject land and adjacent lands, and,
  - 3. any structural or stratigraphic barriers on the subject land;
- (g) production history of any wells on the subject land and adjacent land;
- (h) a description of the reservoir characteristics, geology and geophysics of the subject land; and,
- (i) any other information that the Board may require.

**28. The Board's decision granting a variance to the spacing requirements and the reasons for the variance will be publicly available.**

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Guidance Notes

Part VII of the Order allows operators to apply to Board for variance to the spacing requirements.

If the operator can demonstrate to the Board that the production block has changed because of common ownership or joint production arrangements, the Board may vary the off-target area.

If the operator can demonstrate to the Board that additional producing wells are needed to optimize the recovery of oil and gas because of such things as, but not limited to, low permeability, poor reservoir characteristics, the existence of structural faults and/or stratigraphic barriers within the spacing unit, and that the recovery of oil and gas in adjacent lands will not be affected, the Board may allow more than one producing well in a spacing unit that contains an off-target area.

If the operator can demonstrate to the Board that producing wells located in the off-target area are needed into optimize the recovery of oil and gas because of such things as, but not limited to, low permeability, poor reservoir characteristics, the existence of structural faults and/or stratigraphic barriers within the spacing unit, and that the recovery of oil and gas in adjacent lands will not be affected, the Board may assign an off-target area penalty factor equal to zero (0.00) for delineation or development wells located in the off-target area of a spacing unit.

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**Part VIII – Glossary**

“barrier” means any fluid, plug or seal that prevents gas or oil or any other fluid from flowing unintentionally from a well or from a formation into another formation (section 1 of the *Canada Oil and Gas Drilling and Production Regulations*).

“Board” means the National Energy Board established by sections 3 and 4 of the *National Energy Board Act*, R.S.C. 1985, c. N-6.

“commingled production” means production of oil and gas from more than one pool or zone through a common well-bore or flow line without separate measurement of the production from each pool or zone (section 1 of the *Canada Oil and Gas Drilling and Production Regulations*).

“completion interval” means a section within a well that is prepared to permit the

- (a) production of fluids from the well;
- (b) observation of the performance of a reservoir; or
- (c) injection of fluids into the well (section 1 of the *Canada Oil and Gas Drilling and Production Regulations*).

“Crown reserve lands” means frontier lands in respect of which no interest is in force (section 2 of the *Canada Petroleum Resources Act*).

“delineation well” means a well that is so located in relation to another well penetrating an accumulation of petroleum that there is a reasonable expectation that another portion of that accumulation will be penetrated by the first-mentioned well and that the drilling is necessary in order to determine the commercial value of the accumulation (section 101 of the *Canada Petroleum Resources Act*).

“development well” means a well that is so located in relation to another well penetrating an accumulation of petroleum that it is considered to be a well or part of a well drilled for the purpose of production or observation or for the injection or disposal of fluid into or from the accumulation (section 101 of the *Canada Petroleum Resources Act*).

“exploratory well” means a well drilled on a geological feature on which a significant discovery has not been made (section 101 of the *Canada Petroleum Resources Act*).

“field” (a) means a general surface area underlain or appearing to be underlain by one or more pools, and (b) includes the subsurface regions vertically beneath the general surface area referred to in paragraph (a); (section 1 of the *Canada Oil and Gas Operations Act*).

**“formation flow test” means an operation**

- (a) to induce the flow of formation fluids to the surface of a well to procure reservoir fluid samples and determine reservoir flow characteristics; or
- (b) to inject fluids into a formation to evaluate injectivity

(section 1 of the *Canada Oil and Gas Drilling and Production Regulations*).

**“frontier lands” means lands that belong to Her Majesty in right of Canada, or in respect of which Her Majesty in right of Canada has the right to dispose of or exploit the natural resources, and that are situated in**

- (a) the Northwest Territories, Nunavut or Sable Island, or
- (b) submarine areas, not within a province, in the internal waters of Canada, the territorial sea of Canada or the continental shelf of Canada,  
but does not include the adjoining area, as defined in section 2 of the Yukon Act

(section 2 of the *Canada Petroleum Resources Act*).

**“grid unit” means an area described as a “unit” in section 8 of the *Canada Oil and Gas Land Regulations* C.R.C. 1978, c.1518.**

**“lease” means an oil and gas lease issued pursuant to regulations made in accordance with the *Territorial Lands Act* and the *Public Lands Grants Act* and includes a production licence issued under the *Canada Petroleum Resources Act*; (section 2 of the *Canada Oil and Gas Operations Act*).**

**“operator” means a person that holds an operating licence under paragraph 5(1)(a) of the *Canada Oil and Gas Operations Act* and an authorization under paragraph 5(1)(b) (section 1 of the *Canada Oil and Gas Drilling and Production Regulations*).**

**“permit” means an exploratory oil and gas permit issued pursuant to regulations made in accordance with the *Territorial Lands Act* and the *Public Lands Grants Act* and includes an exploration agreement entered into under the *Canada Oil and Gas Land Regulations* and any exploration agreement or licence that is subject to the *Canada Petroleum Resources Act*; (section 2 of the *Canada Oil and Gas Operations Act*).**

**“pool” means a natural underground reservoir containing or appearing to contain an accumulation of oil or gas or both oil and gas and being separated or appearing to be separated from any other such accumulation (section 1 of the *Canada Oil and Gas Operations Act*).**

**“pooling agreement” means an agreement to pool the interests of owners in a spacing unit and to provide for the operation or the drilling and operation of a well thereon (section 29 of the *Canada Oil and Gas Operations Act*).**

**“production licence” has the same meaning as in subsection 37(1) of the *Canada Petroleum Resources Act*.**

**“recovery” means the recovery of oil and gas under reasonably foreseeable economic and operational conditions (section 1 of the *Canada Oil and Gas Drilling and Production Regulations*).**

**"royalty interest"** means any interest in, or the right to receive a portion of, any oil or gas produced and saved from a field or pool or part of a field or pool or the proceeds from the sale thereof, but does not include a working interest or the interest of any person whose sole interest is as a purchaser of oil or gas from the pool or part thereof (section 29 of the *Canada Oil and Gas Operations Act*).

**"royalty owner"** means a person, including Her Majesty in right of Canada, who owns a royalty interest (section 29 of the *Canada Oil and Gas Operations Act*).

**"section"** has the same meaning as in section 7 of the *Canada Oil and Gas Land Regulations*.

**"spacing unit"** means the area allocated to a well for the purpose of drilling for or producing oil or gas (section 29 of the *Canada Oil and Gas Operations Act*).

**"unit"** has the same meaning as in section 8 of the *Canada Oil and Gas Land Regulations*.

**"unit agreement"** means an agreement to unitize the interests of owners in a pool or a part of a pool exceeding in area a spacing unit, or such an agreement as varied by a unitization order (section 29 of the *Canada Oil and Gas Operations Act*).

**"unit operating agreement"** means an agreement, providing for the management and operation of a unit area and a unitized zone, that is entered into by working interest owners who are parties to a unit agreement with respect to that unit area and unitized zone, and includes a unit operating agreement as varied by a unitization order (section 29 of the *Canada Oil and Gas Operations Act*).

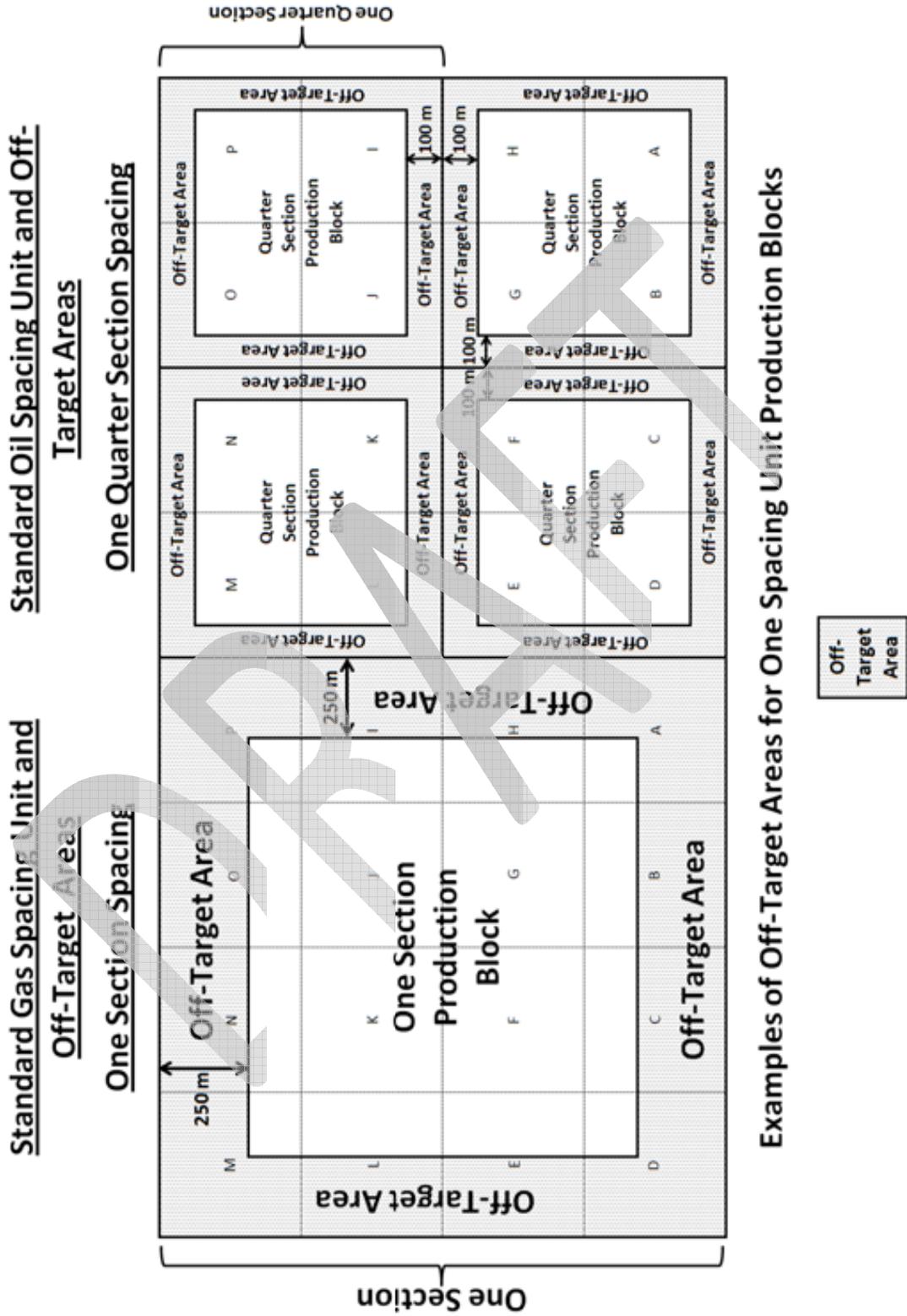
**"well approval"** means an approval granted by the Board under section 13 of the *Canada Oil and Gas Drilling and Production Regulations*.

**"working interest"** means a right, in whole or in part, to produce and dispose of oil or gas from a pool or part of a pool, whether that right is held as an incident of ownership of an estate in fee simple in the oil or gas or under a lease, agreement or other instrument, if the right is chargeable with and the holder thereof is obligated to pay or bear, either in cash or out of production, all or a portion of the costs in connection with the drilling for, recovery and disposal of oil or gas from the pool or part thereof (section 29 of the *Canada Oil and Gas Operations Act*).

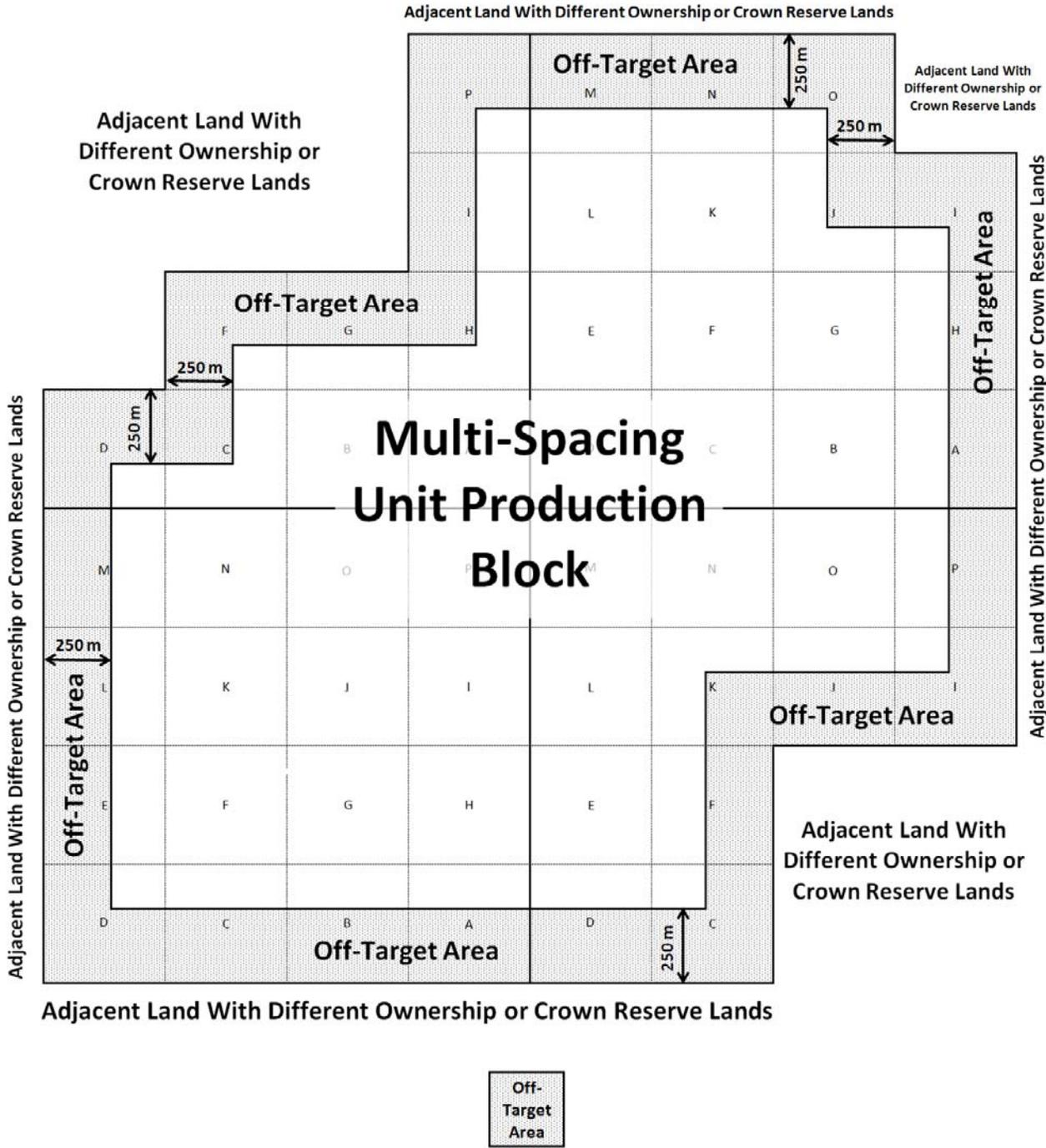
**"working interest owner"** means a person who owns a working interest (section 29 of the *Canada Oil and Gas Operations Act*).

**"zone"** means any stratum or any sequence of strata designated as a zone by the Board pursuant to section 4 of the *Canada Oil and Gas Drilling and Production Regulations*.

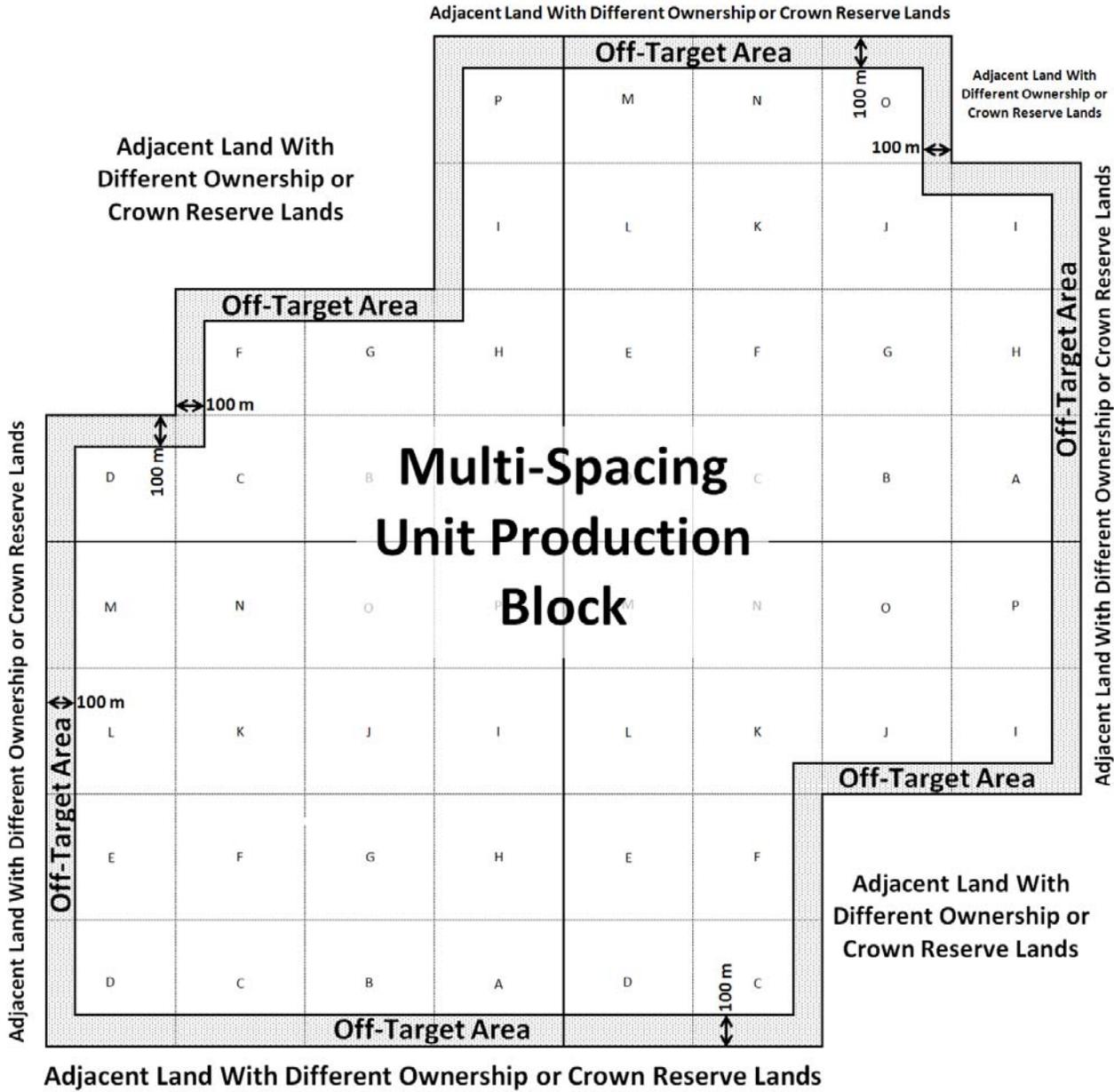
**Figure 1: COGOA Standard Spacing Units and Off-Target Zones**



**Figure 2: Example of a Gas Off-Target Area on a  
Multi-Spacing Unit Production Block**

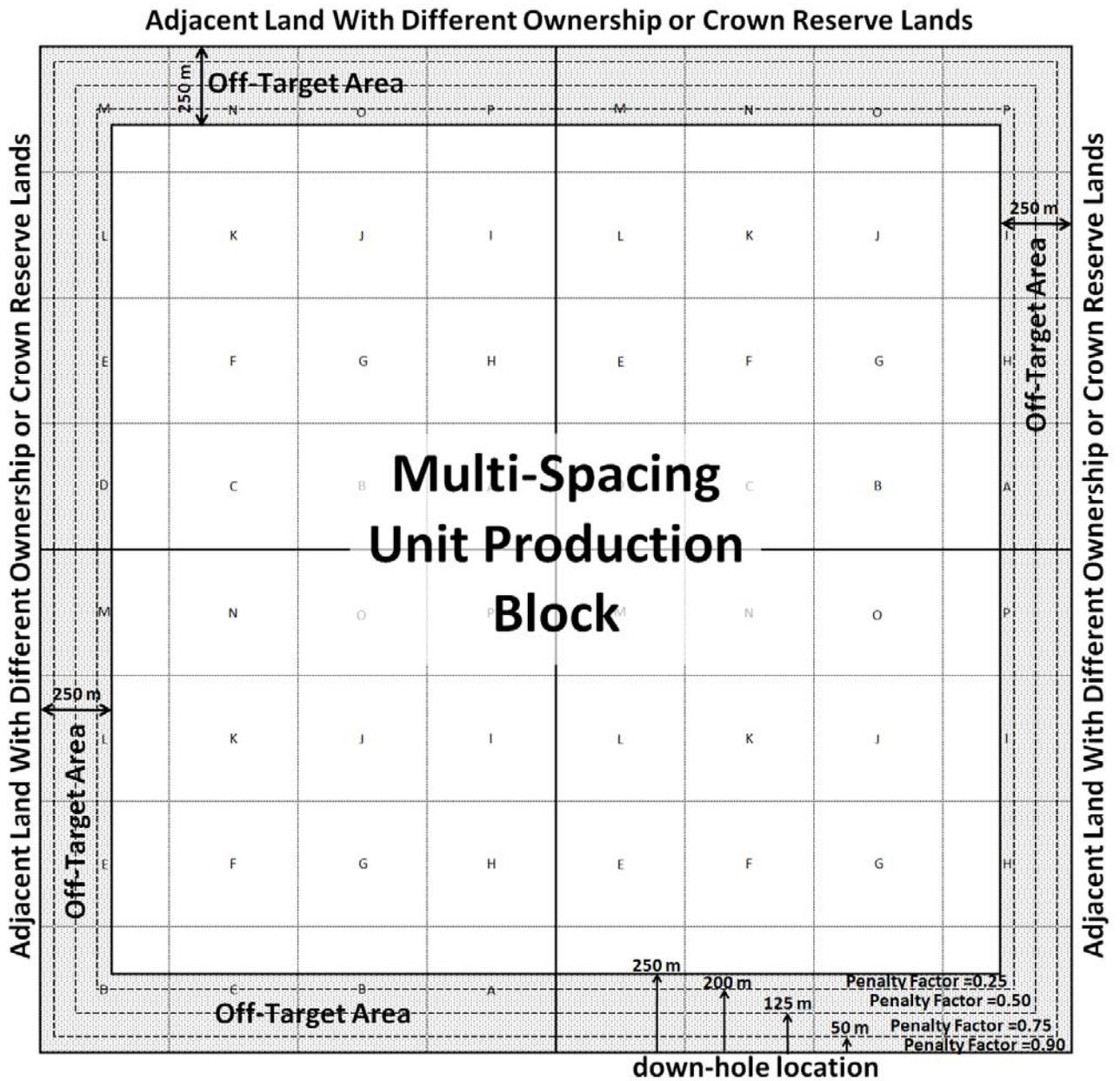


**Figure 3: Example of an Oil Off-Target Area on a  
Multi-Spacing Unit Production Block**



Off-Target Area

**Figure 4: Gas Off-Target Area Penalty Factors**



Off-Target Area

**Figure 5: Oil Off-Target Area Penalty Factors**

