

# Reclassification and Recompletion

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Guideline PNG024

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September 2015

Revision 1.0

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Governing Legislation:

Act: *The Oil and Gas Conservation Act*

Regulation: *The Oil and Gas Conservation Regulations, 2012*

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### Record of Change

Revision	Date	Author	Description
0	September, 2015	PNG	Draft
1.0	November, 2015	PNG	Live version, added guideline number, provided wording clarification, updated appendices.

## Guidelines for Reclassification or Recompletion of a Well

Before any reclassification or recompletion of a well—including multi-zone completions and associated plug backs—can be carried out, a licensee must file an application for the procedure with the Saskatchewan Ministry of the Economy (ECON). This document provides instruction to assist a licensee in submitting an application for reclassification, recompletion, multi-zone completions or plug backs for wells in Saskatchewan.

### Governing Legislation

The guidelines below are adapted from *The Oil and Gas Conservation Act (OGCA)* and *The Oil and Gas Conservation Regulations, 2012 (OGCR)*. Licensees should consult these documents in conjunction with these guidelines.

It is the responsibility of all operators, as specified in the legislation, to be aware of Ministry requirements and to ensure compliance with all requirements throughout the life cycle of an oil or gas well in Saskatchewan.

### Definitions

**Balanced plug:** is a plug of cement, or similar material, placed as a slurry in a specific location within the wellbore and set so as to provide a means of pressure isolation or as a mechanical platform.

**Bridge plug:** refers to a downhole tool that is located and set to isolate the lower part of a wellbore. Bridge plugs may be permanent or retrievable, enabling a lower wellbore to be permanently sealed from production or temporarily isolated from a treatment conducted on an upper zone.

**Casing patch:** refers to a downhole assembly or tool system used in the remedial repair of casing damage, corrosion or leaks.

**Cement retainer:** is an isolation tool set in the casing or liner that enables treatments to be applied to a lower interval while providing isolation from the annulus above. Cement retainers are typically used in cement squeeze (see definition below) or similar remedial treatments.

**Cement squeeze:** refers to the process of forcing a cement slurry through holes or splits in the casing or liner in order to fill the relevant holes and voids with cement filter cake that will cure to form an impenetrable barrier.

**Classification:** refers to a well role and product type. Some examples of well classifications are injection well, oil production well, disposal well.

**Multi-zone completion:** refers to a well that is equipped to produce oil and/or gas separately from more than one pool.

**Non-project well:** refers to any well completion that is not within a project (see definition below).

**Plug back:** means to place cement or other material in the well to seal off a completion interval, to exclude bottom water, or to perform another operation such as side-tracking or producing from another depth.

**Project:** refers to one or more wells grouped together for approval of a specialized scheme, e.g., waterflood, enhanced oil recovery (EOR), storage.

**Reclassification:** refers to when an alteration is being planned to a well that will change the product or role of the well. For example, changing a gas-producing well to an oil-producing well, or changing an observation well to an oil-producing well.

**Recompletion:** is the term used when a new completion is being added any time after initial completion. This would include completing a pool that has previously produced but been plugged back.

**Product type:** refers to the primary physical product(s) that can be attributed to the role of the well completion, i.e., oil, gas, water.

**Well role:** refers to the purpose of a well, such as producer, injector, observation.

### General Considerations

All applications for any type of reclassification or recompletion must be submitted to ECON through the Integrated Resource Information System (IRIS), using the correct application form, and complying with all requirements in the *OGCR* and this document.

**‘Public Notice’ should be completed before an application is submitted if required.**

For further details on when public notice is required for reclassification or recompletion applications for either injection or production wells, see the *Directive PNG008: Disposal and Injection Well Requirements*, *Directive PNG007: Off-Target Well Requirements* and the *Directive PNG009: Public Notice Requirements* for details on how to manage the public notice process.

### Common Isolation Procedures and Plug Back Operations

When submitting an application for reclassification or recompletion plugback operations may be part of the application. Table 1 lists the common isolation procedures and plug back operations. The reclassification or recompletion application must detail the isolation procedure that is to be used.

If a licensee intends to completely abandon a well, a non-routine application for a downhole abandon and cut and cap application is required. If the intent is to abandon the last completion of a well with no action taken to recomplete or reclassify the well, an application should be made in accordance with *Well Abandonment Requirements*.

**Table 1.** Common isolation procedures used for previously completed zones, and mandatory requirements.

Isolation Procedure on Previously Completed Zones	Pressure Test Requirement	Regulatory Requirements
1. Cement Retainer	7 Mpa for 10 min	Cement must meet <i>OGCR</i> requirements
2. Bridge Plug	7 Mpa for 10 min	
3. Braiden Head Squeeze	7 Mpa for 10 min	
4. Balance Plug	7 Mpa for 10 min	
5. Casing Patch	7 Mpa for 10 min	3-year commitment

## Types of Reclassification and Recompletion Applications

### 1) Recompletion Applications

#### ***Recompletions***

After the initial completion of a well, any action that will change the producing or injecting pool within a well is considered a recompletion. A recompletion may occur in conjunction with a reclassification.

All recompletions must be carried out in accordance with *The Oil and Gas Conversation Act* and *The Oil and Gas Conservation Regulations, 2012*. If a recompletion is planned, the processes for the completion must be clearly identified and outlined in the *Program of Operations* (the report filed by a company along with the application for recompletion; see Table 2), as well as selected/displayed on the reclassification/recompletion form.

#### ***Multi-Zone Completion***

A multi-zone well is equipped to produce separately from more than one pool. Such wells contain multiple strings of tubing or other equipment that permit production from the various completions to be measured and accounted for separately.

If a multi-zone completion is proposed, it must be clearly identified on the reclassification or recompletion form and outlined clearly in the *Program of Operations* the licensee submits with the application.

### 2) Reclassification Applications

#### ***Reclassify to Disposal – Non-Project***

Disposal refers to the injection of fluids into underground formations for purposes other than enhanced recovery or gas storage.

In accordance with *The Oil and Gas Conversation Act*, ECON's approval of a scheme is required for the gathering, storage and disposal of water produced in conjunction with oil and gas.

All disposal wells must meet the *Directive PNG008: Disposal and Injection Well Requirements* and must have an application to reclassify submitted and approved before any operations occur related to the reclassification to injection.

Appendix 1 shows the decision tree that should be followed when applying for reclassification to a disposal well.

**Reclassify to Non-Injection – Non-Project**

Reclassification to non-injection, non-project means the reclassification application is not part of another application process (commingling, waterflood, spacing modification, etc.). And the applicant wants to reclassify the well to a producing/other well.

Appendix 2 shows the decision tree that should be followed when applying for reclassification to producer, non-project.

**Applying for Reclassification or Recompletion of a Well**

Applications for reclassification or recompletion of a well only require submission and approval after the initial completion of the well.

An application to reclassify or recomplete may include details and information related to multi-zone completion and plug backs. If the application includes a plug back of a completion, the authorization issued for the reclassification or recompletion can be used to report on the completion abandonment within IRIS.

All applications must comply with the most current version of the *OGCR*, and the application must be submitted using the appropriate form.

- If an application is being made for reclassification or recompletion on its own, use the form shown in Appendix 4 to make an application within IRIS.
- If a reclassification or recompletion application is the result of another reservoir application, e.g., waterflood, enhanced oil recovery, spacing modification, storage project, commingling, use the form shown in Appendix 5 and submit as part of that reservoir application. A separate application to reclassify or recomplete is not required.

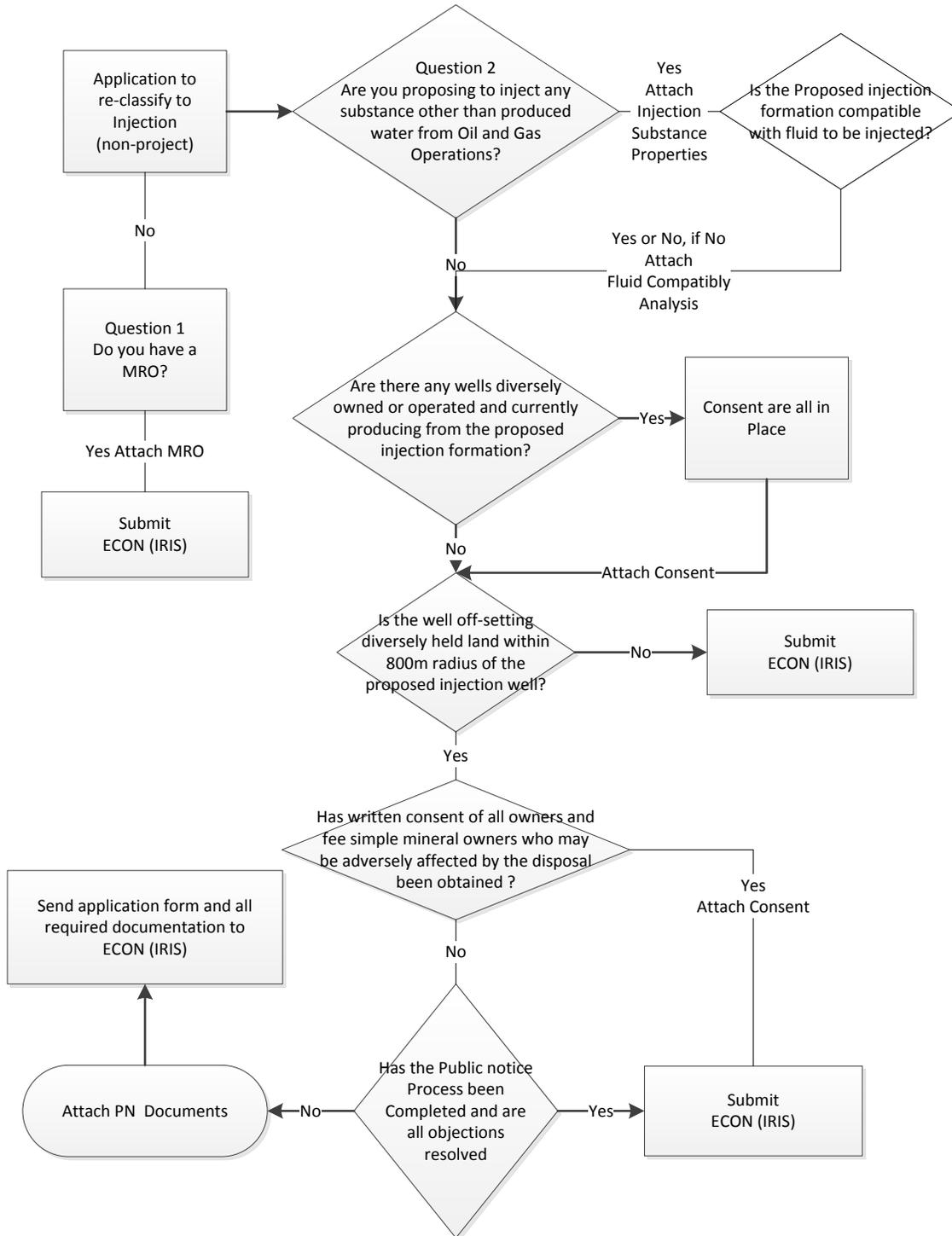
Table 2 provides a list of the common attachments related to these applications, and a brief description of them.

**Table 2.** Descriptions of attachments typically required for a variety of reclassification/recompletion applications.

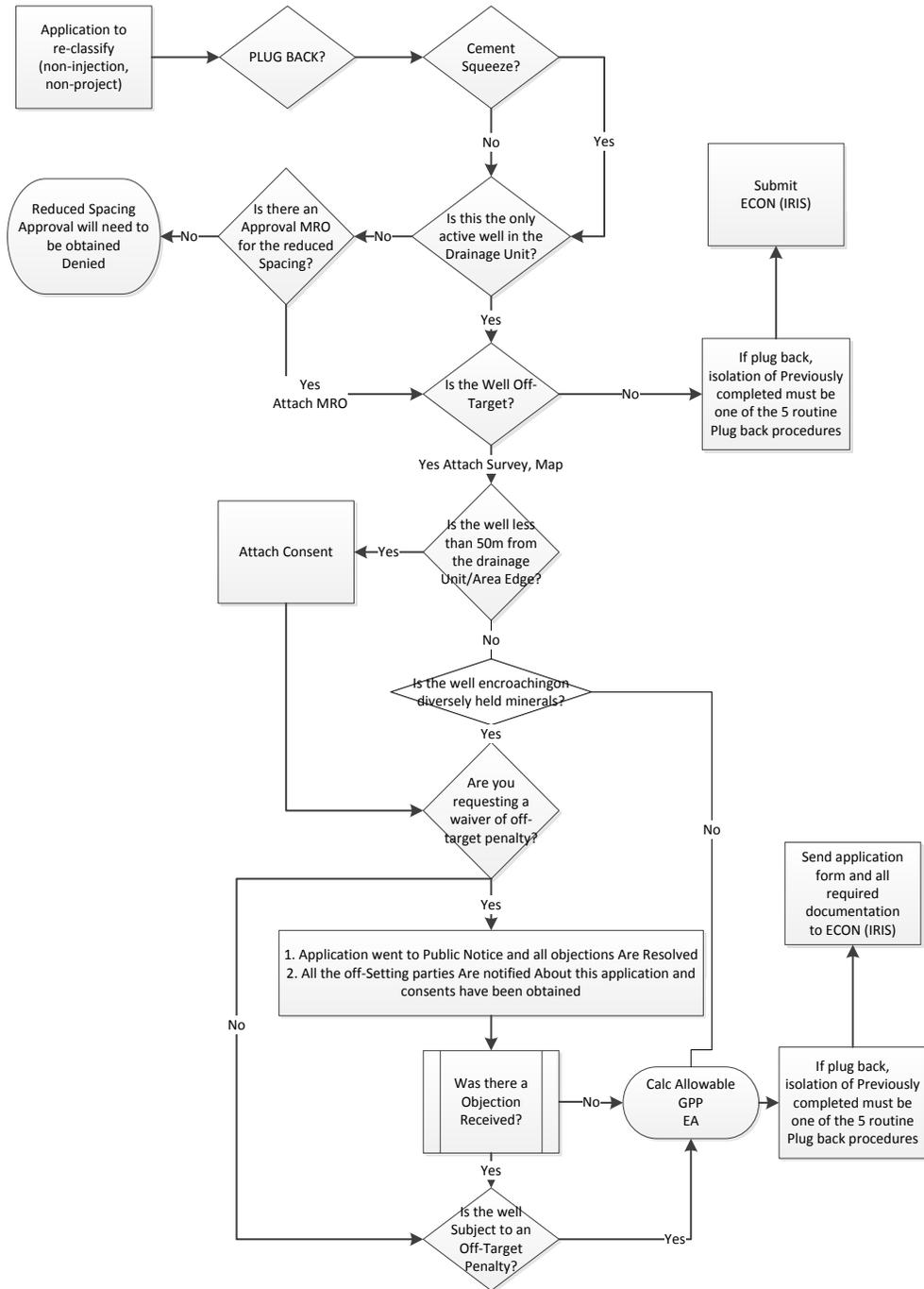
Attachment Type	Description
Reclassification/Recompletion Form	A signed copy of the application form.
Program of Operations	A detailed step-by-step procedure of the workover of a well, including the isolation procedure that will be used, along with testing requirements.
Map	The area in question showing all existing wells for the proposed pool and their present status (producing, abandoned, etc), as well as the proposed and adjacent

Attachment Type	Description
Survey Plan	area showing mineral/working interest ownership. The map should indicate the mineral ownership (e.g., Open Crown, Crown (with the Crown lease indicated) or Freehold (with the freehold owner indicated)) and highlight any well that is active or suspended to the proposed well.
Wellbore Schematic	PDF providing co-ordinates of the area in question. It should include the target area, if applicable. See <i>Well Survey Directive</i> for requirements.
Downhole Schematic <b>(Only required for injection/disposal wells)</b>	A schematic drawing of the current wellbore configuration.
Public Notice Documentation	A schematic drawing of the planned wellbore configuration.
MRO approval	Only required if proposed reclassification or recompletion is offsetting diversely held mineral lands. See <i>Public Notice Directive</i> for more details.
Consents	A previously approved Minister’s order, issued before IRIS was initiated.
Injection Substance Properties	A signed letter of consents from offsetting mineral owners and/or operators.
Fluid Compatibility Analysis	A detailed description of substances other than produced water from an oil and gas operation, that are intended to be injected into a wellbore.
	A test, or series of tests, performed to check that no undesirable reactions occur with a specific fluid. The testing process may include checks for compatibility with other treating fluids, wellbore fluids, reservoir fluids and the reservoir formation.

**Appendix 1: Decision Tree for Reclassification to a Disposal Well, Non-Project**



**Appendix 2: Decision Tree for Reclassification to Non-Injection, Non-Project Well**



### Appendix 3: Attachments Required for Various Types of Reclassification/Recompletion Applications

Depending on the reclassification/recompletion forms being used, different attachments are required. See decision trees in Appendixes 1 and 2 for more details of when certain attachments may be required.

Application Type	Attachment Type	When Required
ALL TYPES	Application form	ALWAYS
	Report of <i>Program of Operations</i>	ALWAYS
	Wellbore schematic	ALWAYS
Multi-zone Well Completion	Downhole schematic	ALWAYS
	Public notice documentation	If a completion is off-target to diversely held mineral owners and licensee is requesting waiver of off-target penalty
	Survey	Only if well is off-target
	Map	Only if well is off-target
	Consents	If the well is less than 50 m from the drainage unit edge
Reclassify to Non-Project, Non-Injection	MRO	If MRO exists already
	Map	Only if well is off-target
	Survey Plan	Only if well is off-target
	Public notice documentation	If off-target to diversely held mineral owners and licensee is requesting waiver of off-target penalty
	Consents	If the well is less than 50 m from the drainage unit edge
Reclassify to Injection (Non-project)	MRO	If previously issued
	Consents	Only if injection will be into freehold mineral lands
	Survey plan	If public notice was required
	Map	If public notice was required
	Downhole schematic	ALWAYS
	Public notice documentation	If public notice was required
	Fluid compatibility analysis	If injection formation is not compatible with fluid being injected
	Injection substance properties	If proposed reclassification is injecting any substance other than produced water

## Appendix 4: Example Portion of a Completed Reclassification/Recompletion Form

### Part I - GENERAL INFORMATION (must be completed in full)

#### BOTTOM HOLE LOCATION

LSD	SEC	TWP	RGE	M
5	5	0	45	15

#### LICENCE NUMBER

01A001

#### APPLICATION DATE

11/19/2015

#### SURFACE LOCATION

LSD	SEC	TWP	RGE	M
5	5	0	45	15

#### APPLICATION TYPE

\*Select One:  Plug Back  Multi-Zone  
 \*More than one can be selected:  Recompletion  Reclassification (indicate well role below)  
 Producer  Injector  Other

### Part II - PRESENT AND PROPOSED WELL INFO (complete areas that are applicable)

**Present Status:** Surface Casing  @   
([meter in m]) ([depth in m])

Production Casing  @   
([meter in m]) ([depth in m])

Total Depth (m)  Plug Back Depth (m)

#### Well Status:

**Stratigraphic Unit**  
**Perf'd Int. in m (M.M.B.)**  
**Open Hole in m (M.K.B.)**  
**Classification (oil/gas/PMW etc.)**  
**Drainage Unit Size (ha)**

Present Status	
Stratigraphic Unit	Dino Sand
Perf'd Int. in m (M.M.B.)	615-620
Open Hole in m (M.K.B.)	
Classification	Oil Well
Drainage Unit Size (ha)	16.19

Proposed Status	
Stratigraphic Unit	GP Sand
Perf'd Int. in m (M.M.B.)	525-550
Open Hole in m (M.K.B.)	
Classification	Disposal Well
Drainage Unit Size (ha)	16.19

Proposed operations to be commenced on:

### Part III - REQUIRED ATTACHMENTS

- RECLASSIFICATION/RECOMPLETION FORM  
\*Based on operations below additional attachments may be required
- PROGRAM OF OPERATIONS
- WELLSBORE SCHEMATIC

### Part IV - DISCLOSURE QUESTIONS

- 1) Will the existing perforations be cement squeezed?  YES  NO

#### FOR COMPLETIONS TO OIL OR GAS PRODUCER - ANSWER THE FOLLOWING

- 2) Is this the only active well in the Drainage Unit? (If no, attach MRO)  YES  NO
- 3) Is the well off-target? (If no questions 4, 5 and 6 are not applicable)  YES  NO
- 4) Is the well less than 50m from the drainage unit/area edge? (If yes attach consents)  YES  NO
- 5) Is the well encroaching on diversely held minerals? (If no, question 6 is not applicable)  YES  NO
- 6) Are you requesting a waiver of off-target penalty? (If yes, proceed to 6.1 and 6.2)  YES  NO
- 6.1) Has the public notice process been completed?  YES  NO
- 6.2) Is the well Subject to an Off-Target Penalty?  YES  NO

#### FOR GAS COMPLETIONS ONLY

- 7) Does the drainage unit contain a mix of Freehold and Crown mineral lands? (If yes, confirmation of lease agreements must be attached)  YES  NO
- 8) For a reclassification to a gas well are there any oil wells completed in the same stratigraphic unit within the drainage unit containing the gas well or within the bordering drainage units adjacent to the quarter-section in which the gas well is located?  YES  NO
- 9) For reclassification to a gas well, The proposed gas stratigraphic unit is not in communication with an underlying oil stratigraphic unit.  YES  NO

#### INJECTION/DISPOSAL WELL

- 1) Has the injection previously been approved? (If yes attach MRO, proceed to Part V)  YES  NO
- 2) Are you proposing to inject any substance other than produced water from oil & gas operations? (If yes attach injection substance properties)  YES  NO
- 3) Is the proposed injection formation compatible with the fluid to be injected? (If no attach fluid compatibility analysis)  YES  NO
- 4) Are you requesting to take and dispose of 3<sup>rd</sup> Party Water?  YES  NO
- 5) Will the well be injecting into freehold minerals? (If yes attach consents)  YES  NO
- 6) Is the proposed formation commonly used for disposal and considered to be non-hydrocarbon bearing in the area? (If yes proceed to Part V)  YES  NO
- 7) Are there any wells diversely owned or operated currently producing from the proposed injection formation and are located within 800m radius? (If yes, all consents must be obtained and available for audit)  YES  NO
- 8) Is the well off-setting diversely held land within an 800m radius? (If no proceed to Part V)  YES  NO
- 9) Has public notice process been completed and are all objectives resolved? (If no, attach Public Notice document)  YES  NO

### Part V - DECLARATION

