Example of Measurement Exemption Supporting Documentation and Application Process in IRIS.

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# **Example of Measurement Exemption Application Supporting Documentation**

All measurement exemptions must have all items listed in Section 5.2 of *Directive PNG017:*Measurement Requirements for Oil and Gas Operations (Directive PNG017). Some measurement exemption applications will require additional information to what is stated in Section 5.0 of Directive PNG017. For measurement exemptions, please fill out the Application for Measurement Exemption Form of this document. Once the form is filled out, ensure that the documents related to the check marked boxes on the form are collected.

#### **Application for Measurement Exemption Form**

See <u>Saskatchewan.ca</u> for measurement exemption form and ensure that all associated documentation that is listed in the application form. Example of a filled-out measurement exemption form can be found in Appendix A.

#### Well and Facility List

#### Well List

Note: Please include both active and suspended wells linked to facilities. Abandoned wells do not need to be included.

Well Completion ID (UWI)	Well Licence #	Surface Location	Well Status	Pool Name and ID:	Mineral Ownership	Linked to Project ID (SK ER) or Unit ID (SK UN)
SKWI13115080461 6W300	85E159	15-08- 046-16W3	N/A ABAN N/A N/A	234119 – Lloydminster Sand (Misc Area)	Freehold	SK ER
SKWI12107080461 6W300	85E158	07-08- 046-16W3	N/A ABAN N/A N/A	234119 - Lloydminster Sand (Misc Area)	Crown	SK UN

#### **Facility List**

Facility ID	Facility Licence #	Facility Surface Location	Facility Subtype
SK BT 0001010	1111	15-08-046-16W3	322-Crude Oil Multiwell Proration Battery
SK SA 0001238	1112	14-08-046-16W3	347 – oil satellite (non-reporting)
No satellite facility ID as the satellite is not required to be licensed as per		13-08-46-16W3	Not applicable
Directive PNG001:	Facility Licence		
Requirements.			

Measurement schematic shows which well completions are associated to each satellite.

#### **Current Measurement Schematic for the facility**

Please attach as a separate document. Please ensure that the measurement schematic meets the requirements in Section 1.8 of Directive PNG017. Applications cannot be approved until an acceptable measurement schematic is in place.

## Proposed Measurement Schematic with changes related to the proposed measurement exemption

Please attach as a separate document. Note some measurement exemptions do not require any changes to the actual setup of the facility, if this is the case please note in application. Please ensure that the measurement schematic meets the requirements in Section 1.8 of Directive PNG017. Applications cannot be approved until an acceptable measurement schematic is in place.

#### **Proposed Operating Procedure**

Description of proposed operating procedures including calibration and proving frequencies, gauging, trucking, sediments and water procedures, and testing frequencies and procedures, etc.

#### **Proposed Production or Injection Production Accounting formulas**

Provide the production accounting formulas for how the production or injection will be determined at the wells, if applicable

#### **Proposed Facility Production Accounting Formulas**

Provide the production accounting formulas for each of the reporting activities and products including receipts, dispositions, inventories, fuel, flare, and vent, at the proposed facility setup. If the volumes are estimated, provide the sample calculations showing all particulars of the estimated volumes.

#### **Mineral Ownership**

Provide a list of the mineral ownership (i.e., freehold or crown) for each of the well completions associated with the facility and satellites. See Well list above.

#### **Public Notice Correspondence**

Provide the written notification that was given to all working interest participants or Freehold owners where there is no common ownership occurring and confirmation of no objection, if applicable. For further information on the Public Notice process and consent letter go to the Directive PNG009: Public Notice Requirements for procedures on when and how to conduct a public notice.

#### Project or Unit ID

Provide the Project ID (SK ER) or Unit ID (SK UN) for the wells, if applicable. See Well List above.

#### Other Information

When requesting a measurement exemption, depending on the exemption other information will be required to be submitted. See below for additional information that is required.

## Additional information related Section 5.3, 5.4, 5.5 and 5.6 Applications in Directive PNG017

#### **Extend Orifice Meter Gas Chart Cycles**

(Section 5.3 of Directive PNG017)

Please include the following if you are requesting an extension of Orifice Meter Gas Chart Cycles (Section 5.3.2)

The following information must be submitted with an application to extend orifice meter gas chart cycles if the criteria in Section 5.3.1.1 are not met:

- 1. All of the information listed in Section 5.2.
- If there is no common ownership or no common Crown or common Freehold royalty, documentation to address royalty and equity issues demonstrating that written notification was given to all Freehold mineral owners and working interest participants, with no resulting objection received.
- 3. A discussion of the impact on measurement accuracy of intermingling base chart cycles and extended chart cycles in a common battery and how it may relate to concerns about working interest equity and/or royalty considerations.
- 4. A minimum of two current, consecutive, representative gas charts. Additionally, the licensee has the option to run the charts on the proposed chart cycle to gather test data for submission and then revert back to the required chart cycle after a maximum test period of 31 days. The original copies of any such charts created must be submitted with the application. The trial run must be clearly identified on the charts.

## Gas Proration Outside SW Saskatchewan Shallow Gas Wells

(Section 5.4 of Directive PNG017)

For wells outside the boundary of and/or producing from stratigraphic units or zones other than those approved for the SW Saskatchewan and SE Alberta Shallow Gas Stratigraphic Units or Zones or Area (see Section 7.2), it may be acceptable to use a proration system for gas well production instead of having measurement for every well. If a proration system is implemented, all wells in the battery must be subject to the proration system.

The following information must be submitted with an application to use a proration system, instead of individual gas well measurement, to determine gas well production if the criteria in Section 5.4.1.1 are not met:

- 1. All of the information listed in Section 5.2;
- 2. A discussion of the stage of depletion for pools involved and the impact of any reduction in well measurement accuracy that may result from gas proration as it relates to reservoir engineering data needs discussion of this matter by the licensee with its own

- reservoir engineering staff or knowledgeable external personnel is required and must be addressed in the application;
- 3. A clear explanation and flow diagram of proposed well and group measurement devices and locations, the proposed accounting and reporting procedures, and the proposed method and frequency of testing;
- 4. If there is no common ownership or no common Crown or common Freehold royalty, documentation to address royalty and equity issues demonstrating that written notification was given to all Freehold mineral owners and working interest participants, with no resulting objection received.

Considerations for Site-specific Approval Section 5.4.3

- 1. All wells must be classified as gas wells.
- 2. There are minimal equity, royalty, and reservoir engineering concerns.
- 3. All wells should have similar flow rates.
- 4. Economic considerations: Would implementation of a proration system reduce costs enough to significantly extend operations? Have other options been considered?
- 5. Total liquid production at each well in the battery should be ≤ 2.0 m³/day based on the monthly average flow rates recorded during the six months prior to conversion. If a group of new wells not previously on production are to be constructed as a proration battery, the qualifying flow rates must be based on production tests conducted under the anticipated operating conditions of the proration battery.

#### **Measurement by Difference**

(Section 5.5 of Directive PNG017 of *Directive PNG017*)

This section needs to be added to the application when apply for measurement by difference relating to Compliance Assessment Indicators (CAIs) 116, 117, 118.

The following information must be submitted with an application to add measured gas or oil/emulsion sources to a prorated battery if the applicable qualifying criteria and additional qualifying criteria in Section 5.5.3.2.2 are not met:

- 1. All of the information listed in Section 5.2;
- 2. A discussion of the stage of depletion for pools involved, and the impact of any reduction in well measurement accuracy that may result from measurement by difference as it relates to reservoir engineering data needs; discussion of this matter by the proponent with its own reservoir engineering staff or knowledgeable external personnel is required and must be addressed in the application;
- If there is no common ownership or no common Crown or Freehold royalty, documentation to address royalty and equity issues demonstrating that written notification was given to all Freehold mineral owners and working interest participants, with no resulting objection received.

Considerations for Site-specific Approval Section 5.5.5

- 1. There are minimal equity, royalty, and reservoir engineering concerns.
- 2. Economic considerations, including an assessment of whether implementation of a proration system would reduce costs enough to significantly extend operations, and an assessment of the other options that have been considered.
- 3. The gas and liquids from the tied-in measured source(s) must be separately and continuously measured.
- 4. If the tied-in measured gas source(s) produces condensate and it is connected by pipeline to an oil battery, the licensee must choose the applicable condensate delivery/reporting options from Table 5.6 in Directive PNG017. In the scenario of an oil proration battery or a gas proration battery, the monthly gas volume including GEV of condensate where applicable received from a tied-in measured gas source and any other receipts must be subtracted from the total monthly battery gas volume including GEV of condensate where applicable to determine the monthly battery gas production volume. In the scenario of an oil proration battery, the monthly liquid condensate, oil, or oil-water emulsion volume, where applicable, received from a tied-in measured source must be subtracted from the total monthly oil and/or water disposition plus/minus inventory changes and minus any other receipts to determine the monthly battery oil and/or water production volume.

#### **Fuel Gas Measurement by Difference**

(Section 5.6 of *Directive PNG017*)

The following information must be submitted with an application to commingle production at surface prior to measurement from multiple stratigraphic units or zones in a gas well or multiple wells on the same surface location if the qualifying criteria in Section 5.6.1.1 are not met:

- 1. All of the information listed in Section 5.2;
- 2. Shut-in and proposed operating pressures at the wellhead for all stratigraphic units or zones or wells;
- 3. Operating pressure for the gathering system at the well's measurement point;
- 4. Proposed testing procedures to determine the individual stratigraphic unit or zone or well production rates;
- 5. Proposed accounting procedures for prorating total volumes to the individual stratigraphic units or zones or wells; and
- 6. All wells flowing to the battery:
  - have common working interest ownership, and where there is no common ownership, written notification has been provided to all working interest participants. If the owner does object then the licensee is required to notify ER;
  - b. have either common Crown or common Freehold royalties. If there are no common Crown or common Freehold royalties and only Freehold royalties are involved, written notification has been given to all Freehold royalty owners. If the owner does object then the licensee is required to notify ER.

#### Considerations for Site-specific Approval Section 5.6.3

- 1. Generally, there is ≤ 2.0 m<sub>3</sub>/day of total liquid production from all stratigraphic units or zones or wells.
- 2. All stratigraphic units or zones or wells must be classified as gas stratigraphic units or zones or wells.
- 3. There are minimal equity, royalty, and reservoir engineering concerns.
- 4. The combined production of all stratigraphic units must be continuously measured. If there are gas and liquid components, they must be separated and measured in a single phase.
- 5. Check valves must be in place on the flow line upstream of the commingling point.
- 6. Testing requirements:
  - a. Each stratigraphic unit or zone or well must be tested once per month for the first six months after commingling, then annually after that, and/or immediately following any significant change to the producing conditions of either stratigraphic unit or zone or well.
  - b. The tests must be conducted for at least 24.0 hours in duration and must involve the separation and measurement of all gas and liquid production.
  - c. If condensate is recombined with the gas production of the commingled stratigraphic units or zones or wells, a sample of the condensate must be taken annually and analyzed and used to determine the factor that will be used to determine the GEV.
  - d. The tests for all stratigraphic units or zones or wells must be done consecutively, with stabilization periods.
  - e. Any of the three test methods described in the exceptions in Section 5.6.1.1 may be used, with the consideration that more than two stratigraphic units or zones or wells may be involved. Methods (1) and (2) are preferred, because the testing is conducted under normal flowing conditions without shutting in stratigraphic units or zones or wells, so that minimal stabilization time is required. ER may specify test procedures if specific circumstances warrant them.
- 7. The production rates determined for each stratigraphic unit or zone or well by the periodic tests must be used to estimate the monthly production for each stratigraphic unit or zone or well from the date they are conducted until the next test is conducted. The monthly measured combined production must be prorated to each stratigraphic unit or zone or well based on the estimates, and those prorated volumes must be reported as the monthly production for each stratigraphic unit or zone or well.

#### **Example of How to Submit Measurement Exemption Application in IRIS**

Before submitting the application ensure that all required information is collected, reviewed and ready to be submitted. The application must include the Measurement Exemption Application form found in <a href="Saskatchewan.ca">Saskatchewan.ca</a> and all associated documentation that is listed in the application form.

#### Step 1: Log into IRIS

Once all the documentation is ready, log into IRIS. Under Applications, Petroleum and Natural Gas, select "Measurement Exemption". See Figure 1. If "Measurement Exemption" does not appear on screen than the user must be setup with the appropriate IRIS permission set, see section "IRIS Access" below on what permission set is required.

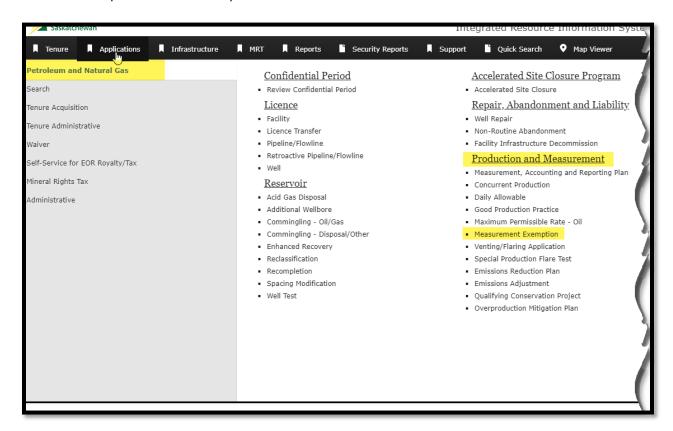


Figure 1: Select Measurement Exemption to apply for a Measurement Exemption as per Directive PNG017.

#### **Step 2: Enter Description of Measurement Exemption**

Enter a description for the requested Measurement Exemption. Such as "Application for site specific deviation to measurement requirements found in Section XXXX of Directive PNG017..." or "Measurement by Difference application for Oil/Gas for facility SK XX XXXXXXX". Companies can add their own Industry Application Reference Number to aid in tracking the application internally. Select Next. See Figure 2.

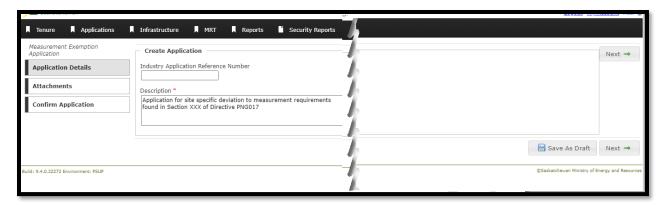


Figure 2: Create Measurement Exemption Application

#### Step 3: Attach measurement exemption application form and documents

Attach all the documentation required in the measurement exemption application form. Note that all the documents required for the application are not listed in the document types, documents required that are not listed under document types can be given the document type of "Measurement Exemption Application". See Figure 3, Figure 4, and Figure 5. Once all documents are uploaded select Next.

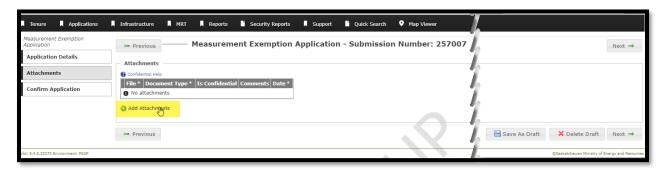


Figure 3: Uploading documents to application by Add Attachments

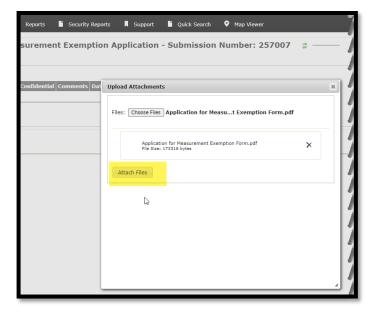


Figure 4: Uploading documents to application by Attach File

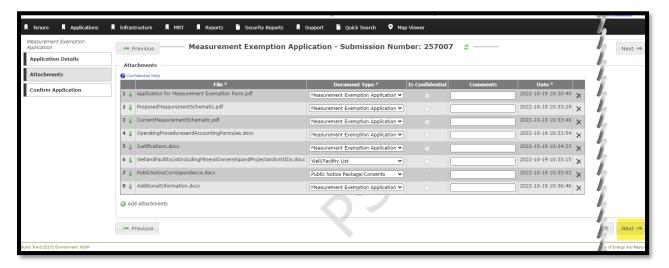


Figure 5: Upload all documents

#### **Step 4: Review Application**

Review application and ensure all documentation is attached. Select Submit. See Figure 6.

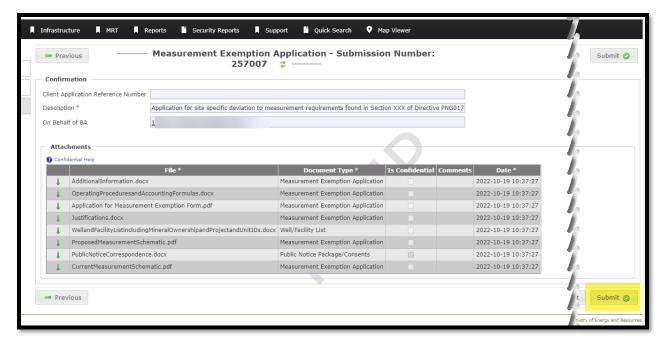
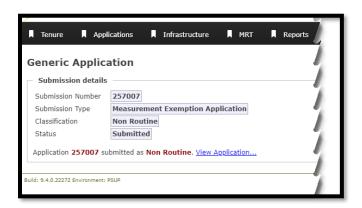


Figure 6: Review and Submit Application.

#### **Step 5: Submitted Application**

Once the application is submitted the submission details will appear on screen which will state the submission number, submission type, classification (this will always be Non-Routine for Measurement Exemption Applications) and Status of the application. See Figure 7. Note that once the Ministry of Energy and Resources (ER) has started to review the application the status will change to "Submitted (Under Review)".



**Figure 7: Submitted Application** 

#### Step 6: Issues with Application

If there are only minor questions associated with the application, ER will send the Business Associate a work item with a list of questions to be answered. If there are major issues with the application, then ER will deny the application. Work Items for an application can be found in IRIS under Quick Search, Figure 8, and My Work Items, Figure 9, select the appropriate work item.

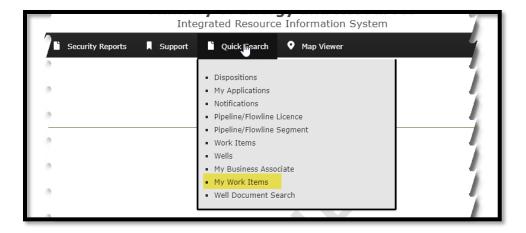


Figure 8: My Work Items



Figure 9: Select the specific work item related to application

Once the work item is selected, review the "Request Note" related to the work item, Figure 10, and respond accordingly.

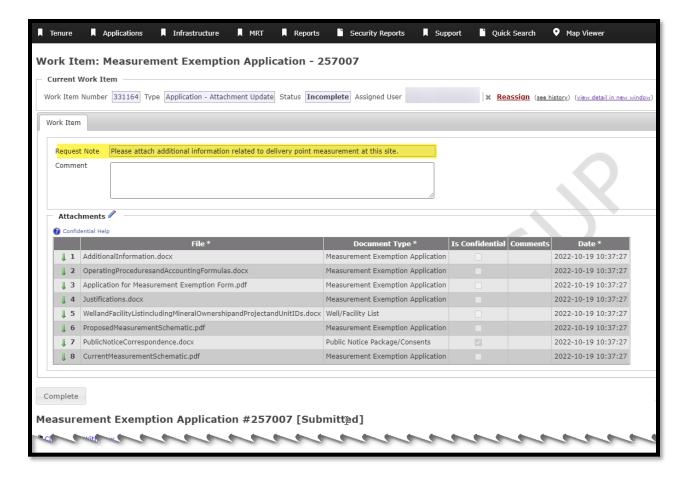


Figure 10: Request Note for Work Item

To attach extra documentation, select the pencil beside the "Attachments" and upload the documents and save. Figure 11.

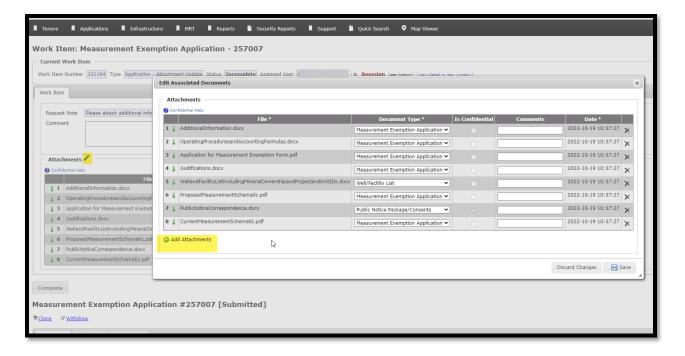


Figure 11: Adding additional attachments to application

Once the attachments and or comments have been added select "Complete". Figure 12.

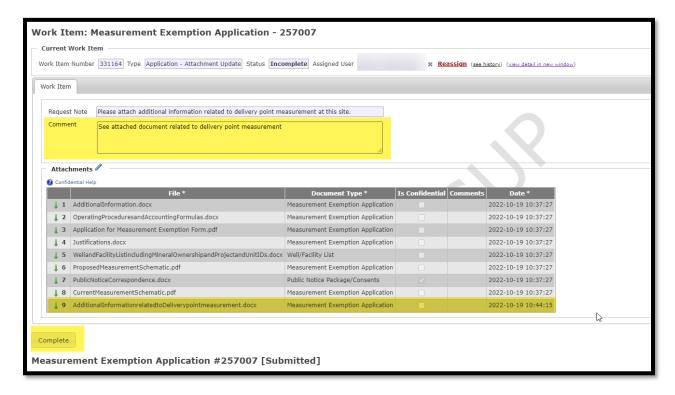


Figure 12: Complete the Work Item

The completed work item will provide details related to the completion, see Figure 13. Also a notification will be sent to ER related to this work item completion.

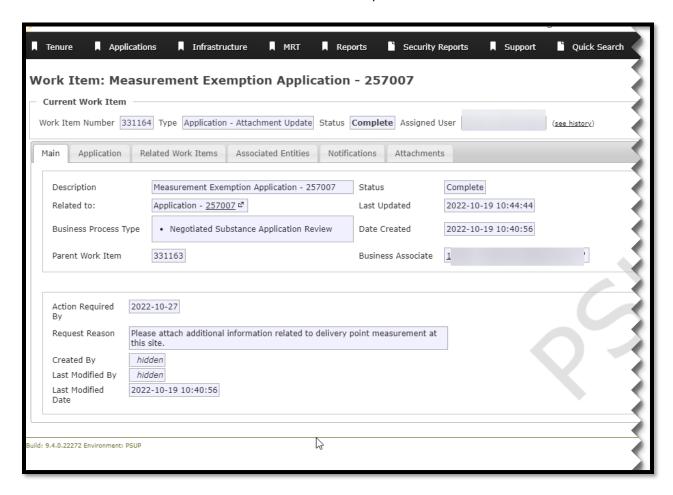


Figure 12: Completed Work Item Details

#### **Step 7: Denial of Application**

If an application is found to be missing to many key pieces of information the application will be denied. ER may also review the application and determine that a particular measurement exemption has impact on royalties, equity, public safety, environment, or reservoir engineering therefore ER will not allow such measurement exemption to be granted. A notification will be sent to the user who submitted the application when the application is denied in IRIS. See figures related to approval of application as they will be similar, but state denied.

#### **Step 8: Application Approval**

Once ER has reviewed the application and determined there is no impact on royalties, equity, public safety, environment, or reservoir engineering and affected parties have agreed to the change then ER will approve the measurement exemption application. A notification will be generated relating to the approval of the application. Please review the authorization to be aware of the conditions but on the approval. Figures 13-16.



Figure 13: Notification of approval of application

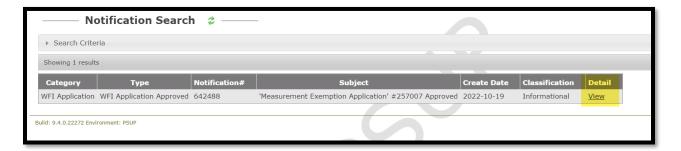
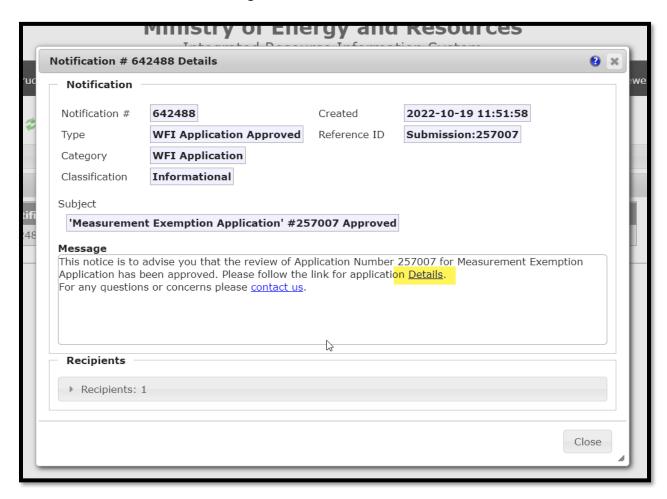


Figure 14: Notification Search



**Figure 15: Notification Details** 



**Figure 16: Authorization Information** 

#### **IRIS ACCESS**

The user in IRIS will need to have the following permission set to submit a Measurement Exemption Application. **Figures 17 and 18.** If the user does not have this permission set, please contact your Business Associate Security Administrator to have the permission set added.



Figure 17: Industry permission set name



Figure 18: Industry Permission set details



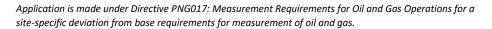
### Application for Measurement Exemption - Guideline

The following guideline is to assist in properly applying for measurement exemption to deviate from measurement requirements in *Directive PNG017: Measurement Requirements for Oil and Gas Operations* (Directive PNG017).

For measurement exemptions, please fill out the Application for Measurement Exemption Form on page 2 of this document. Once the form is filled out, ensure that the documents related to the check marked boxes on the form are collected. Log into IRIS and under Applications, under Petroleum and Natural Gas, under Production and Measurement, select "Measurement Exemption". On first page "Create Application", add a brief description of the application. After selecting Next, on second page, attach the Application for Measurement Exemption Form (these two pages) and all the documents related to the check marked boxes in this form. Select Next and review the submission before selecting "Submit". Once the application on IRIS is submitted the Ministry of Energy and Resources will be notified. If additional information is required for the review of the application a Work Item will be generated and sent to the submitter. For more details on how to submit in IRIS and example document of a measurement exemption application form and attachments see document "Example of Measurement Exemption Supporting Documentation and Application Process in IRIS" on Saskatchewan.ca.

Application Information	
Current Measurement Requirements	List the base measurement requirements under Directive PNG017 requirements that will be deviated from and include section number and section name.
Proposed Measurement Exemption Description	List with detail of proposed deviation from measurement requirements.
Justification	Provide the justification for the measurement exemption from the basic measurement requirements (e.g., minimal impact on measurement accuracy).
Required Information	
List of Well(s) and Mineral Ownership	Include well list with the following information that is applicable to the application: well completion ID (i.e., unique well identifier), well licence numbers and respective pool name and ID for each well completion. Include in well list a list of the mineral ownership (i.e., freehold or crown) for each of the well completions associated with the facility and satellites. If the well licence has not been issued, please list the proposed well location.
List of Facility(s)	Include facility list with the following information that is applicable to the application: facility IDs, facility licence numbers, facility subtypes, facility locations. If the facility ID or facility licence has not been issued, please state in application.
Current Measurement Schematic for Facility	Provide an up-to-date measurement schematic of the current facility setup. Please refer to Section 1.8 of Directive PNG017 for additional information on how to ensure the measurement schematic is compliant. If more than one facility is included in application, please submit the current measurement schematic for each of the facilities.
Proposed Measurement Schematic for Facility	Provide an up-to-date measurement schematic of the proposed facility setup. Please refer to Section 1.8 of Directive PNG017 for additional information on how to ensure the measurement schematic is compliant. If more than one facility is included in application, please submit the proposed measurement schematic for each of the facilities. If there are no changes to the measurement schematic related to the measurement exemption, please note in submission of application.
Proposed Operating Procedures	Description of proposed operating procedures including calibration and proving frequencies, gauging, trucking, sediments and water procedures, and testing frequencies and procedures, etc.
Proposed Production or Injection Production Accounting formulas	Provide the production accounting formulas for how the production or injection will be determined at the wells, if applicable.
Proposed Facility Production Accounting Formulas	Provide the production accounting formulas for each of the reporting activities and products including receipts, dispositions, inventories, fuel, flare, and vent, at the proposed facility setup. If the volumes are estimated provide the sample calculations showing all particulars of the estimated volumes.
Mineral Ownership	Provide a list of the mineral ownership (i.e., freehold or crown) for each of the well completions associated with the facility and satellites.
Public Notice Correspondence	Provide the written notification that was given to all working interest participants or Freehold owners where there is no common ownership occurring and confirmation of no objection, if applicable. For further information on the Public Notice process and consent letter go to the Directive PNG009: Public Notice Requirements for procedures on when and how to conduct a public notice.
Project or Unit ID	Provide the Project ID (SK ER) or Unit ID (SK UN) for the wells, if applicable.
Other  Section E Specific Requir	If additional information will help defend the reason for the measurement exemption, please provide in the application.  rements (additional supporting documentation is required for applications related to these Sections in Directive PNG017)
Extend Orifice Meter Gas Chart Cycles	Provide the additional supporting documentation as per Section 5.3.2 as it relates to extending orifice meter gas chart cycles if the criteria in Section 5.3.1 are not met.
Gas Proration for Shallow Gas Wells	Provide the additional supporting documentation as per Section 5.4.2 as it relates to use a proration system, instead of individual gas well measurement, to determine gas well production, if the criteria in Section 5.4.1 are not met.
Measurement by Difference	Provide the additional supporting documentation as per Section 5.5.4 as it relates to adding measured gas or oil/emulsion sources to a prorated battery if the applicable criteria and additional qualifying criteria in Section 5.5.3 are not met. This can relate to Compliance Assessment Indicators (CAIs) 116, 117, 118.
Fuel Gas Measurement by Difference	Provide the additional supporting documentation as per Section 5.6.2 as it relates to commingling production at surface prior to measurement from multiple stratigraphic units or zones in a gas well or multiple wells on the same surface location if the qualifying criteria in Section 5.6.1 are not met.
Applicant Information	
Business Associate (BA) Name and ID	The business associate name and BA ID as it is in IRIS. If the submission is from a third party, then enter "Company X (third party) on behalf of Company Y."
BA Contact	The contact person must be able to answer technical questions regarding the application should the Ministry require clarification or additional information.
Telephone Number	The number the BA contact can be reached at should the Ministry require clarification or additional information when reviewing the application.
Email Address	The email address for the BA contact.
Signature & Date	The application <u>must</u> be signed and dated by the contact listed above to be accepted by the Ministry.  By signing, the contact is verifying the completeness and accuracy of all information provided. If the application is rejected due to incomplete or inaccurate information, the applicant will be requested to re-submit a complete application and it will enter the review queue based on the new date that it is received.
Method of Submission	
IRIS Submission	All application must be submitted through the Integrated Service Information System (IRIS) in the generic applications> Production and Measurement> Measurement Exemption
	The applications should contain all the necessary information and attachments.

## Application for Measurement Exemption Form



Energy Regulation Division 1945 Hamilton St. Regina, SK S4P 2C8

Current Measurement Requirements from Section of Directive PNG017 Being Deviated From:
Dranged Massurement Evernation Descriptions
Proposed Measurement Exemption Description:
Justifications for exemption from the base measurement requirements:
Attachments: Required information, where applicable, MUST be submitted in IRIS with application.
List of Well(s) applicable to the application and related well information including Mineral Ownership.
List of Facility(s) applicable to the application and related facility information.
Measurement schematics. Measurement Schematic must be compliant with Section 1.8 of Directive PNG017, or the application will be rejected.  Current Measurement Schematic for each facility associated with the application
Proposed Measurement Schematic for each facility associated with the application
Proposed Operating Procedures.
Proposed Production and Injection Production Accounting Formulas, if applicable.
Proposed Facility Production Accounting formulas.
Public Notice Correspondence.
Project ID (SK ER) or Unit ID (SK UN), if applicable, list here:
Other.
Additional Information, where applicable, that must be submitted to support the application:
Extend Orifice Meter Gas Chart Cycles, Section 5.3 of Directive PNG017
Gas Proration for Shallow Gas Wells, Section 5.4 of Directive PNG017
Measurement by Difference, Section 5.5 of Directive PNG017
Gas Measurement by Difference
Oil Measurement by Difference
Fuel Gas Measurement by Difference, Section 5.6 of Directive PNG017
Business Associate Name: Business Associate Contact:
Telephone Number: Extension: Email:
By signing below, I hereby certify that the application form and the attached supporting documentation is complete and accurate. If the application is found to be incomplete or inaccurate, I acknowledge that the Ministry will discard the application after notifying me of the deficiencies and that I will be required to submit a new application.
Signature Date

