

## Petrinex Information Bulletin 010

February 2, 2021

### High-level Overview of Alberta Conventional Oil Marketing and Forecasting Processes

The Alberta government (for conventional oil) has a take-in-kind (TIK) royalty regime that requires producers to calculate and deliver the Crown's oil royalty volume share into the various pipelines and sales facilities on a monthly basis. Royalties are based on production (vs. sales, as is the case for gas).

Royalties are not a fixed percentage of production. Unlike Working Interest Ownership, the Crown's percentage of production changes every month based on a number of factors. In one month the Crown can be as low as 0 - 5%; the next month it might be as high as 25-35%. And when the Crown share of gross production changes, the volume available to other owners will change...even if the WIO percentage remain unchanged.

Form A Delivery Facility operators often use the last month's average Crown royalty rate to forecast the current forecast month but that can be problematic, particularly during times of high price volatility. See [Attachment 3](#) for examples of how forecasting the Crown volume at different levels – Form A battery, producing battery or well level can have a significant impact on Crown royalty volume estimates.

A number of inputs are required to calculate the Crown's oil royalty share including:

- a. Individual well production volume
- b. Current month PAR price
- c. Royalty attributes (including mineral ownership, benefit program status etc.)
- d. Appropriate royalty formula (ARF, MRF etc.)

Petrinex is the source of volumetric data (item a). Information for items b, c and d are provided to Petrinex by the DOE; (c and d at the well level).

Reporting associated conventional oil is complex and involves a 3-stage, multi-month process. Since this process extends over several months for each production month, in any given calendar month operators will be stewarding activities related to several individual production months. This multi-month dynamic is illustrated in the diagrams provided in [Attachment 2](#).

## 1. Forecast Processes

- Producers must forecast/estimate the total (**Gross**) volume of oil that will be produced and delivered to the pipeline during the production month.
- Producers must estimate the **Net** share of production that will be delivered into each shipper's account (including the Crown's shippers' accounts); and identify the purchasers of the oil delivered into each shippers' account. Note: The Petrinex Oil Forecast Tool is available to operators to help identify the Crown's share of forecast Gross production.
- The above information is provided to the operators of facilities downstream of the production source (BT, TM, PL etc.) and to affected owners, shippers and purchasers.
- The Forecast Process starts before the month of production, but forecasts can be revised throughout the production/delivery month.
- The Crude Oil Logistics Committee manages processes associated with oil forecasting and logistics. The COLC's Form A, Form B and Form C are used to communicate forecasts to affected parties. See [Attachment 1](#) for more information on the COLC forms and other-forecast related processes.
- Petrinex has a set of functions called the Oil Forecast Tool that can be used by operators to help calculate the forecasted Alberta Crown royalty volumes. See Petrinex Information Bulletin 011 "[Petrinex Oil Forecast Tool Overview for Oil Forecast Tool Users](#)" for more information on using the OFT.

## 2. Production/Delivery Processes

Operators produce and deliver production into downstream facilities throughout the production month. For operational and marketing reasons the volume and destination of a well's production may differ from the original forecast, and this must be communicated to affected parties. In some cases, oil is produced and stored (i.e. not delivered to market during the production month). The Crown's oil royalty share, however, is deemed to be the first volume delivered and does not go into storage (except for rare circumstances).

## 3. Accounting/Settlement Processes

In the month following the month of production affected parties perform accounting/settlement processes which include (among others):

1. Gross volumetric reporting to the AER/DOE via Petrinex
2. Pipeline Split reporting (Identification of owners, shippers and purchasers including the Crown royalty share) via Petrinex
3. Definitive calculation of Crown royalty share (by DOE)
4. Reconciliation of volumes and accounts
5. Settlement

## **Petrinex Information Bulletin 010**

### **Attachment 1: Crude Oil Logistics Committee Role and Other Forecast-Related Processes**

Processes associated with oil forecasting and logistics are managed under rules established by the Crude Oil Logistics Committee (COLC). The COLC is a decision-making body that consists of producers, shippers, pipelines, terminals, industry associations, government regulators and departments. For more information visit <https://colcomm.com/>.

- The COLC publishes a monthly calendar outlining the deadlines by which various activities must be performed.
- The COLC prescribes various forms (Form A, Form B, Form C etc.) to be used by the parties.
- While the COLC monitors participant adherence to COLC rules, it has no formal authority to enforce those rules.
- The COLC is made up of representatives of producer and facility operator companies. The APMC is a non-voting member of the COLC.

Petrinex incorporates COLC deadlines into monthly Petrinex reporting calendars; and publishes the COLC's online training modules. COLC Forms include the following:

#### **Form A (Producer) to Downstream Facility Operator**

- Submitted by the production facility operator to another facility operator to which their production is being delivered for the upcoming production month.
- The forecast indicates the volume and the shipper(s)/purchaser(s) who will be marketing the oil/condensate. Some facilities require the ownership of the product to be reflected. The Form A could be sent to a pipeline, truck terminal, cleaning plant, rail transloader or another operator's battery/plant. The Form A can be revised throughout the forecast and production months.

#### **Form A (Delivery Facility Operator) to Pipeline/Terminal Operator**

- This is the final facility that delivers to the pipeline/terminal. The volumes on this Form A can include production at the facility along with receipts from multiple other facilities.

#### **Form B (Producer) to Shipper/Purchaser**

- Communicates the revised volume forecasted to the impacted shipper/purchaser.

- Whenever a Form A is revised, Form B's must be issued separately to each shipper listed on the revised Form A, indicating their revised volume.
- Notifies each shipper/purchaser listed on the Form A revision that a change in the operator's forecasted volume will affect a supply revision on their pipeline/terminal nomination.

### **Form C (Final Receiving Facility Operator to Shippers)**

- Form Cs are issued only once a month – after the original Form As are received. The receiving facility (PL, TM, CT etc.) operator consolidates all forecasted volumes by shipper and receipt points to generate a document called Form C.
- The Form C identifies the forecasted shipper/purchaser's supply volume that is available to transact in the production month.
- The Form C is sent to each shipper and provides each shipper with a summary by producing location, of volume they must nominate into the pipeline/terminal's system.

### **Other Forecast-Related Processes include the following:**

#### **Apportionment**

- The PL/TM process to allocate available capacity on a pipeline to all eligible shippers when the total volume of all the shippers nominated on Form As are greater than the pipeline capacity. This impacts the Form C calculations.

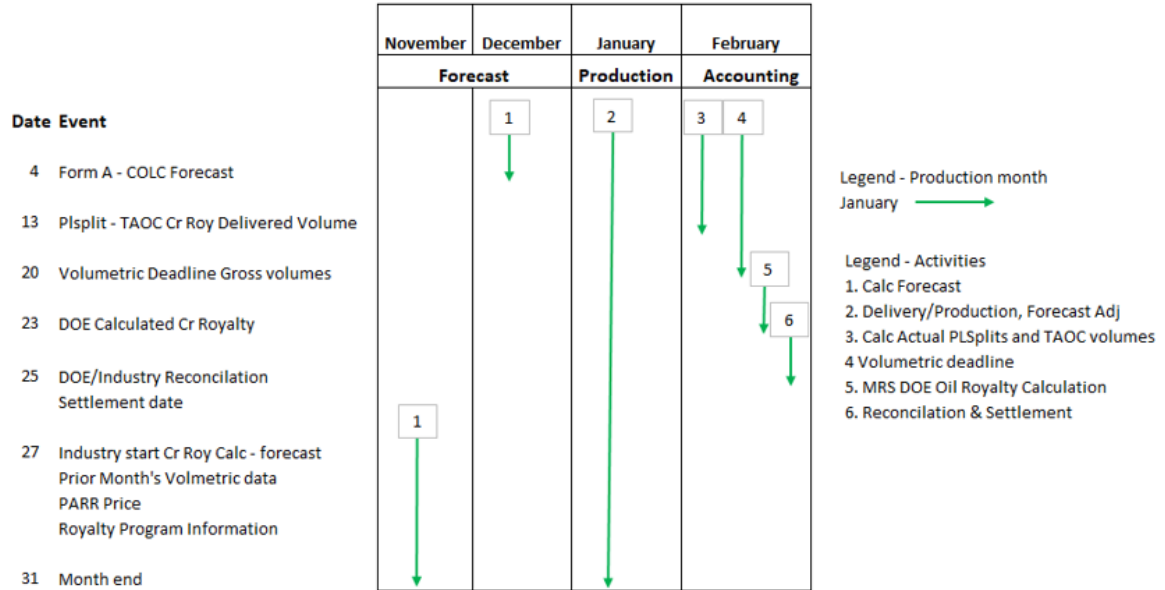
#### **Notice of Shipment (NOS) Nomination**

- Is a document sent by shippers to a pipeline or facility summarizing intended receipts, purchases and sales and transfers in and out of that specific pipeline or facility.
- The purpose of the NOS is to identify to the receiving facility (TM/PL etc.) operator:
  - The shipper's intended use for their production volume outlined on their Form C.
  - The shipper's purchase and sale transactions.
  - Facility transfers as they relate to other shippers on the pipeline.
- The receipts and dispositions on the notice must be balanced to zero.
- NOS revisions are required any time a forecast is revised (Form A/B) and when there is an additional transaction to rebalance the position.

**[Back to Main Document](#)**

## Attachment 2: Multi-Month Reporting Timeline Examples

### Producing Operators Reporting Timeline – January Production

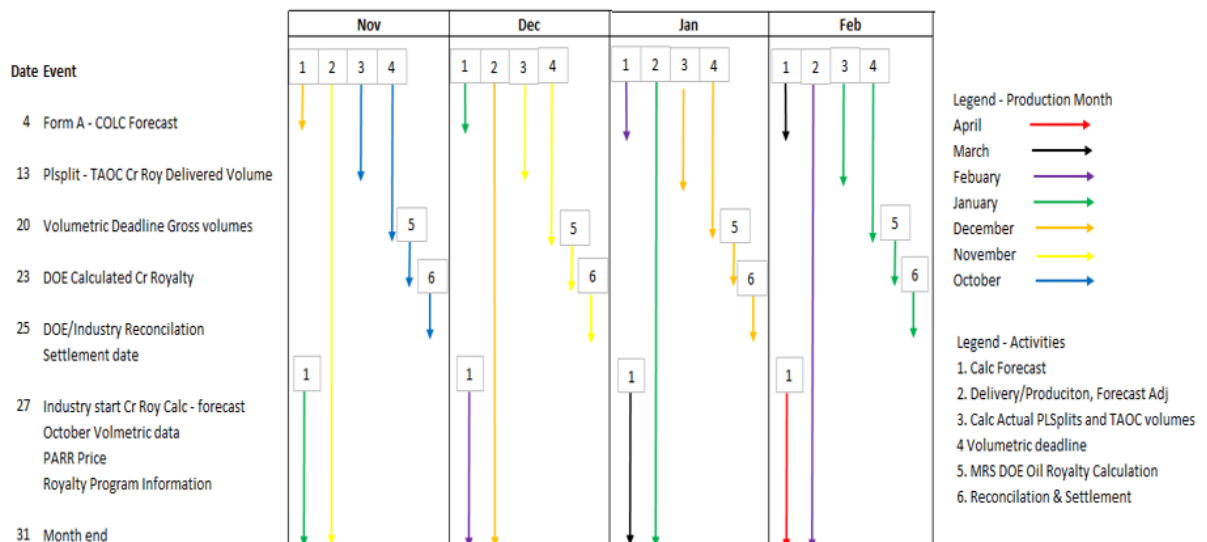


“Forecast month” – the month prior to production (processes actually start at end of previous month)

“Production month” – the month of physical delivery

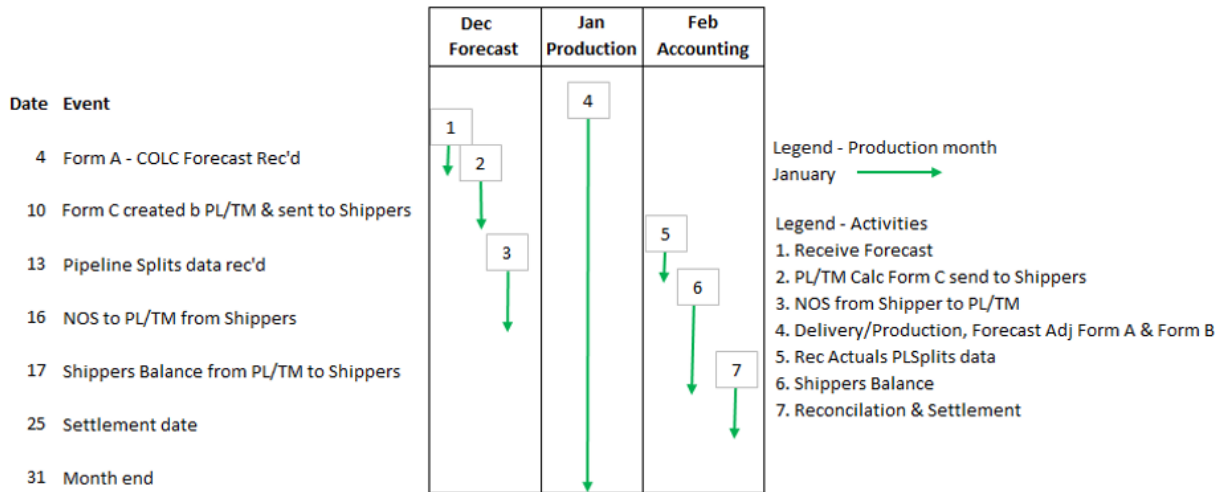
“Accounting/Settlement month” – the month after production

### Producing Operators reporting Timeline – Multiple Months



In each Calendar month there are processes related to forecasting, production and accounting for various months.

## PL/TM Operators Reporting Timeline – January Production

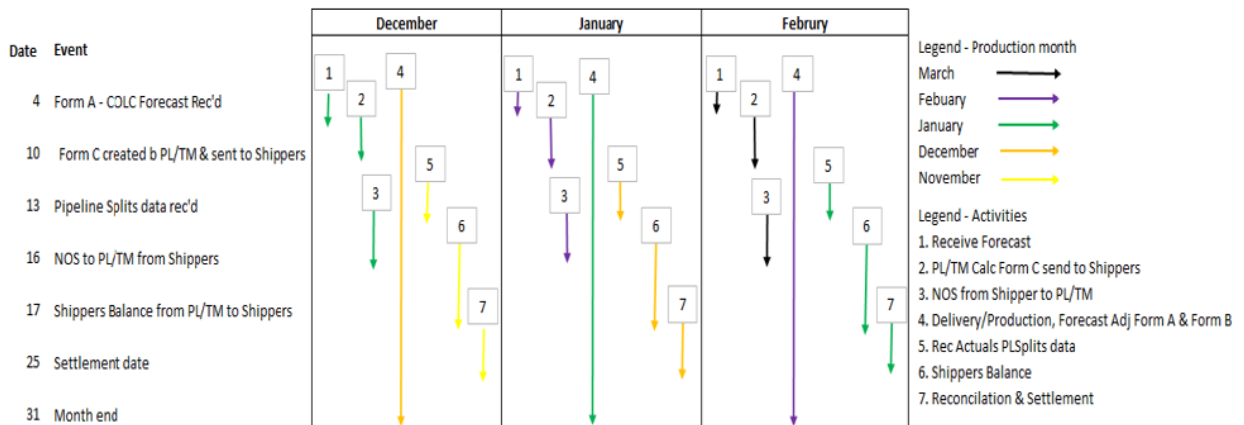


“Forecast month” – the month prior to production (processes actually start at end of previous month)

“Production month” – the month of physical delivery

“Accounting/Settlement month” – the month after production

## PL/TM Operators Reporting Timeline – Multiple Months



In each Calendar month there are processes related to forecasting, production and accounting for various months.

[Back to Main Document](#)

## Petrinex Information Bulletin 010

### Attachment 3: Example of the impact of reporting forecasts at the available various levels

The Crown royalty take-in-kind volume is calculated by the APMC/DOE based on the each individual well's production volume. All wells are associated with a producing battery and many industry companies provide their forecasts at the Form A delivery facility (Facility View List/group) level. The OFT allows for three levels of forecasting.

The following is an example demonstrating impact of different approaches to using the Oil Forecast Tool:

#### Scenario:

Total production has increased from 780 m3 to 1000 m3 from the previous "actual" period that was used to generate the "starting forecast" in the OFT for the current forecast period.

*Did this significant increase (220 m3) come from one well or an overall improvement in field productivity?*

1. If the change is input by the forecaster at the Form A Delivering Facility (Facility View list) level, the OFT will prorate that change in volume across all wells and producing batteries associated with that Form A battery (Facility View list).
2. If the change is input at only one Producing Battery that delivers to the Form A battery, the OFT will prorate that change in volume across the all wells producing to just that battery.
3. If the change is input at the Well Level, the OFT does not need to "make assumptions".

#### Results:

*The forecast Crown share of production changes significantly based on the information provided to the OFT. The following are the results as calculated by the OFT using the three different approaches:*

1. Form A Delivering Facility: 1,000.0 Gross Calculated Crown = 92.4 m3 (9.24%)
2. Producing Battery Level: 1,000.0 Gross Calculated Crown = 114.5 m3 (11.45%)
3. Well Level: 1,000.0 Gross Calculated Crown = 130.5 m3 (13.05%)

*In addition to the Crown's royalty volume share, all other owners and shippers will be impacted based on the forecasting approach taken:*

<u>Scenario and Shipper/Owner shares</u>		<u>1.</u>	<u>2.</u>	<u>3.</u>
Crown	Shipper APMC	92.4	114.5	130.5
WIO A 50.0%	Shipper D	453.8	442.7	434.8
WIO B 25.0%	Shipper D	226.9	221.4	217.3
WIO C 25.0%	Shipper E	<u>226.9</u>	<u>221.4</u>	<u>217.3</u>
Total Production		1000.0	1000.0	1000.0

[Back to Main Document](#)