

Curtailment Rules under *Responsible Energy Development Act*



Caveat

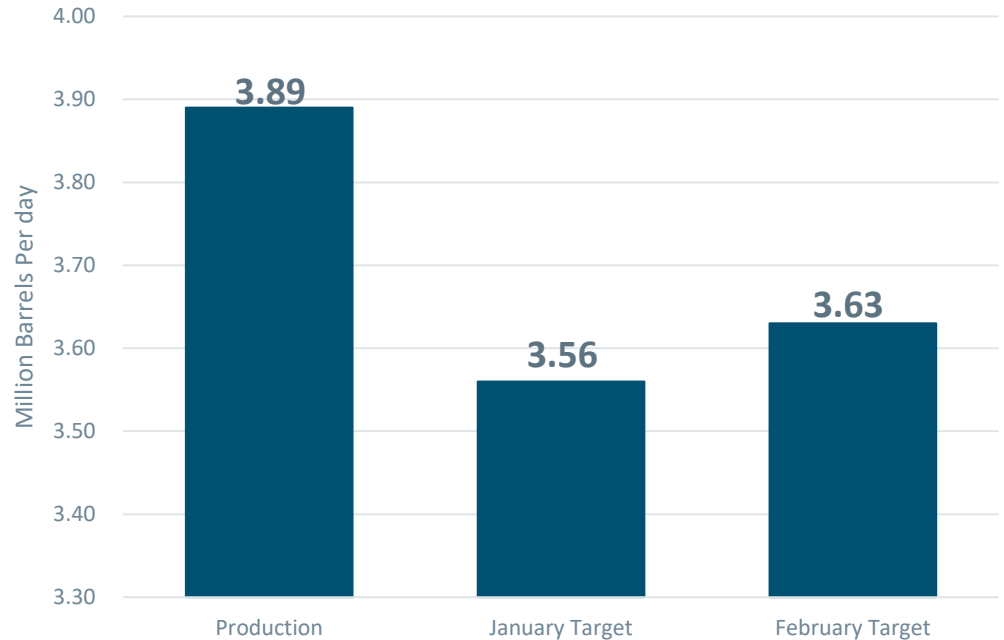
- This is a summary and interpretation. In case of any conflict with this presentation, the legislation, regulations and guidelines are the determinative source.

Determination of Takeaway Capacity

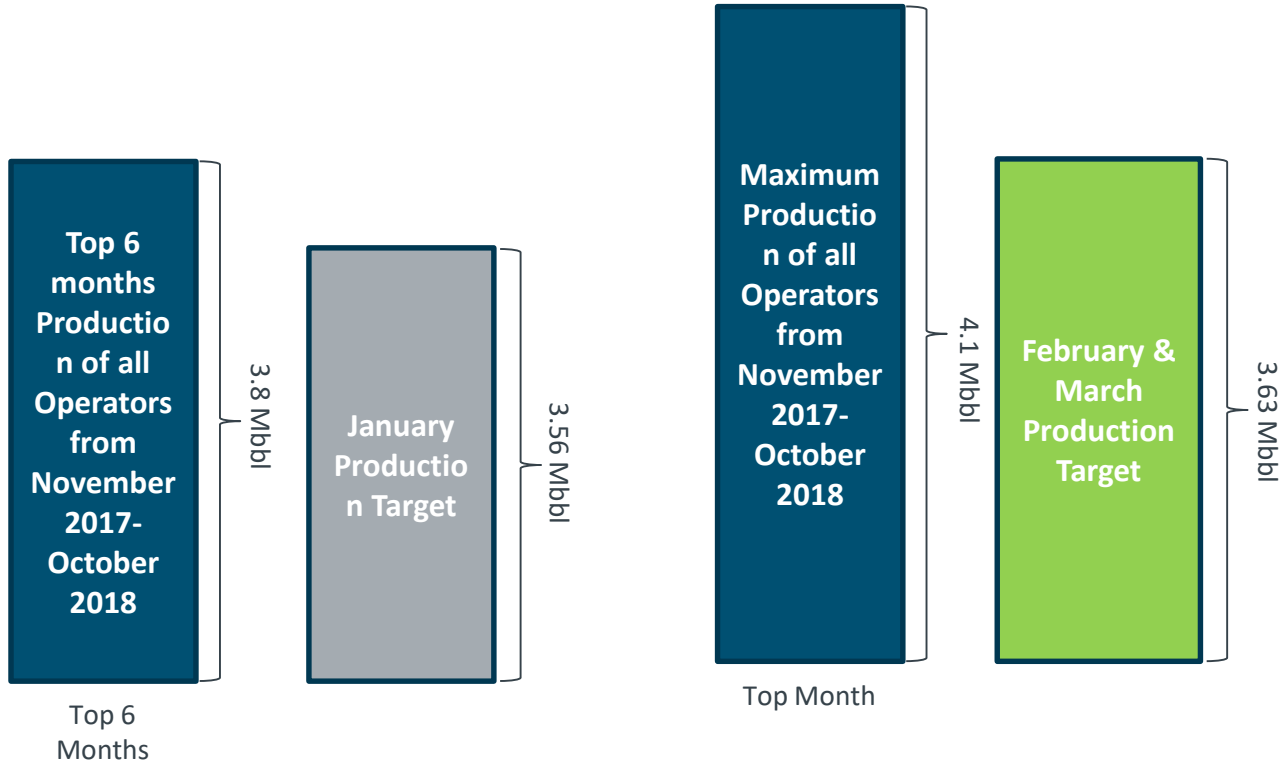
- Based on Q1 2019 an estimate of production of roughly 4,313 kbd was determined and then converted to ~3,890 kbd of raw product (excluding diluent for insitu) and adjusting for Synthetic Oil production.
- An excess supply balance was identified between expected production of 4,313 barrels per day (3,890 at well head) and forecasted takeaway capacity of 4,100 barrels per day.
- This resulted in an imbalance of 215 kbd for supply in Q1, or roughly 190 kbd of crude bitumen and crude oil.
- Alberta Energy acknowledges that each of these factors are approximate and will vary slightly based on assumptions made about utilization and forecasts. These values may be adjusted in future once determination of where curtailment is occurring is observed.

Curtailment Target

- January target intended to match take away capacity while reducing inventory levels
- February and March targets expected to reduce inventory levels at a slower pace
- 325 kbd curtailment announcement intended to provide context

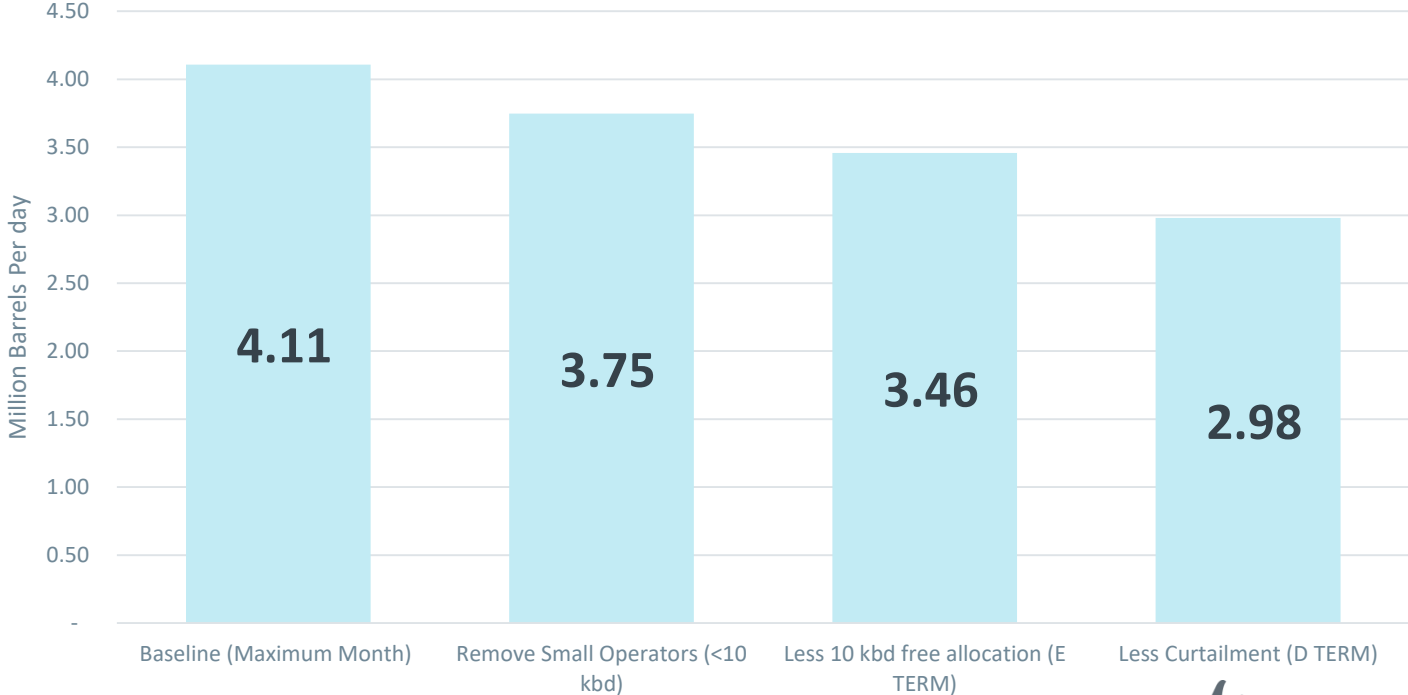


Illustrations of Baselines



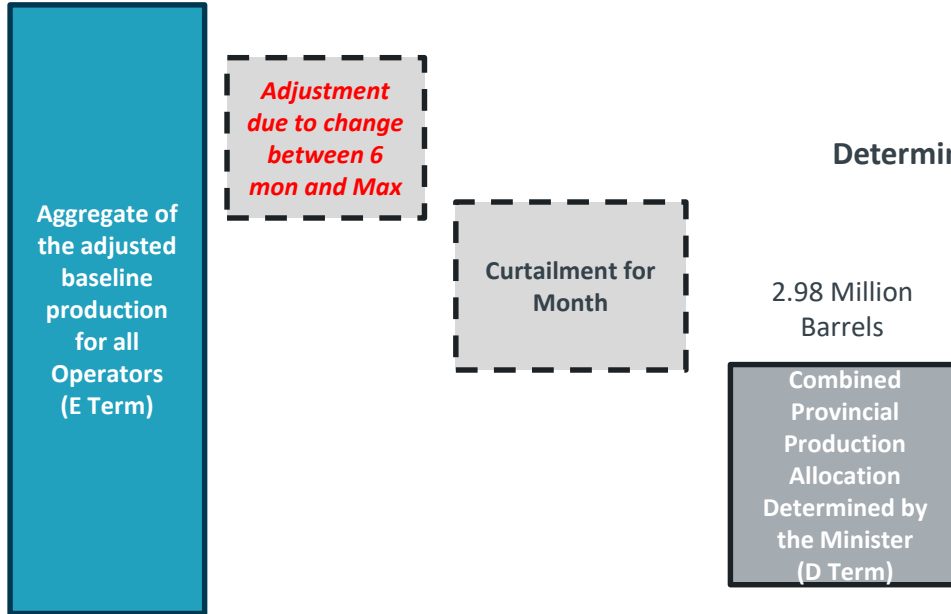
Production Allocation Calculation– February/March

- Baseline is shown as the maximum Month of all operators
- Remove Small operators
- Remove 10 kbd Free Exemption
- Remove Curtailed Volumes



(C - D)/C: Percentage of the adjusted baseline production allowable (February/March)

3.46 Million Barrels



Determined by:

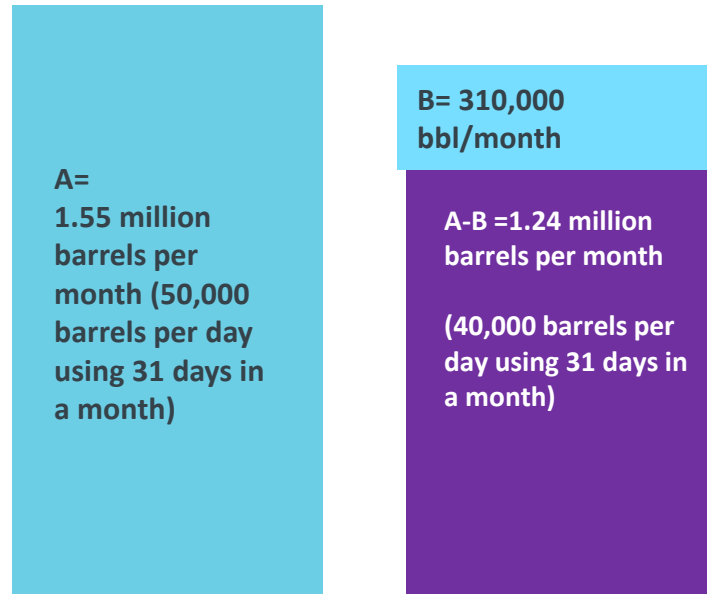
$$\frac{\text{Aggregate of the adjusted baseline production for all operators} - \text{Amount required to achieve the provincial production allocation}}{\text{Aggregate of the adjusted baseline production for all operators}}$$

Example: $\frac{2.98 \text{ million barrels per day}}{3.46 \text{ million barrels per day}} = 86.2\%$

Where:

- C – is the aggregate of the adjusted baseline production for all operators
- D – is the amount required, in the opinion of the Minister, to achieve the provincial production allocation

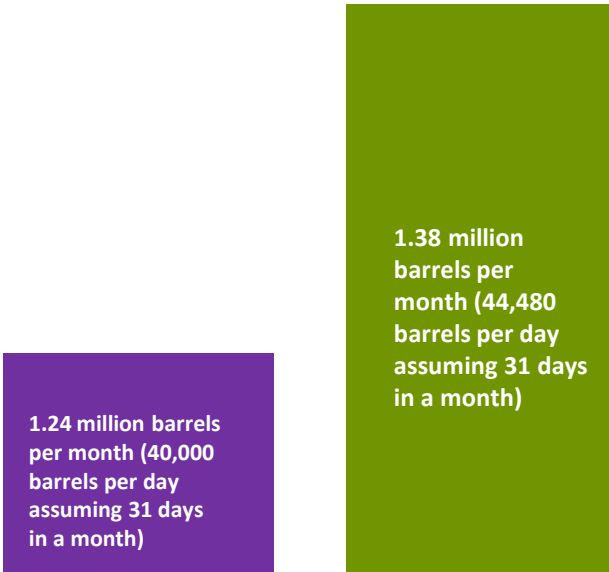
A - B: Operator's adjusted baseline production



Where:

- A – Baseline Production of Operator (Top month from November 2017 to October 2018)
- B – is 310,000 barrels of combined production of crude oil and crude bitumen

$\frac{[(E \times F) + (G)] \times H}{I}$: Combined amount that may be produced by the operator



Determined by: Adjusted baseline production times the percentage plus 310,000 barrels prorated to the number of days in the month

example:

$$((1.24 \text{ million bbl/month} \times 86.2\%) + 310,000 \text{ bbls}) \times (31/31)$$

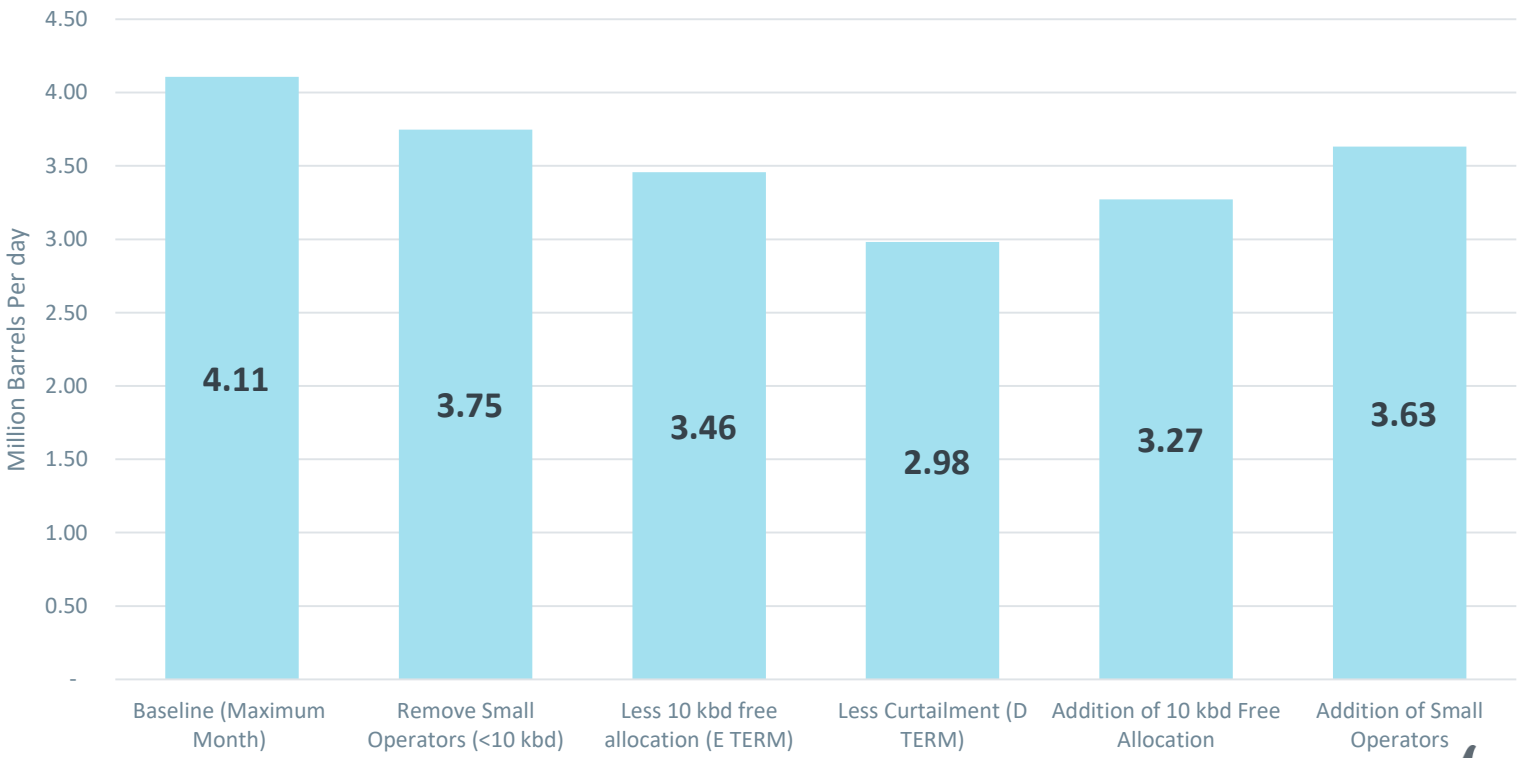
1.38 million bbls per month

(44,480 bbl/d Using 31 days in the month)

Where:

- E – is the adjusted baseline production
- F – is the percentage of the adjusted baseline production
- G – is 310,000 bbl of combined production of crude oil and crude bitumen
- H – is the number of days in a month
- I – 31 days

Production Allocation Calculation – February/March



Additional Information

Curtailment Consolidation and Transfer (IL 2018-43)

- Operators can consolidate or transfer their curtailment allocations in order to meet their curtailment requirements
- Consolidation can only occur between operators to whom curtailment orders apply.
- Transfers can only occur between operators to whom curtailment orders apply.
- Note: The deadline to accept applications is the 15th day of the production month in which production curtailment is required.

Freehold (IL 2019-05)

- For freehold production the following must both apply:
- Operator's total freehold production percentage is 80% or greater of the operator's total production;
- The combined amount of crude oil and crude bitumen that may be produced by the operator in the month is insufficient to allow the operator to produce the amount of crude oil or crude bitumen required for the operator to retain mineral rights under any contractual requirement established before December 2, 2018 between the operator and the registered owner of the freehold mineral rights.

Additional Information

Long-term reservoir impairment (IL 2019-05)

- For long-term reservoir impairment the following conditions must all be met:
 - Operator of an OSR Project that is an in-situ operation using steam injection;
 - The OSR Project is producing crude bitumen;
 - The operator's forecasted production for the OSR Project for 2019 accounts for 80% or more of the operator's total forecasted crude bitumen production for 2019; and
 - The operator had, on or before December 2, 2018, started injecting steam into one or more wells that:
 - are part of the Oil Sands Project, and;
 - had not had steam injected into them prior to January 2018;
 - The operator's forecasted production for the OSR Project for 2019 is equal to or greater than 125% of the operator's forecasted production for the OSR Project for 2018 (filed in 2018);
 - Compliance with a curtailment order would result in the long-term loss of crude bitumen production.

Questions?

energy.supply@gov.ab.ca



Methodology of Converting Marketable to Production

- Production was divided between crude oil, SCO, PFT and In Situ production. Each was assigned a factor between 0.85 and 1.33 depending on the product being produced

Production	Factor
Crude Oil	1
SCO (Upgraded)	0.85
Paraffinic Froth Treatment (PFT)	1.2
In-situ	1.33

- The Crown acknowledges that each of these factors are approximate and will vary on an operation by operation basis. These values may be adjusted in future once determination of where curtailment is occurring is observed.