

Alberta Department of Energy

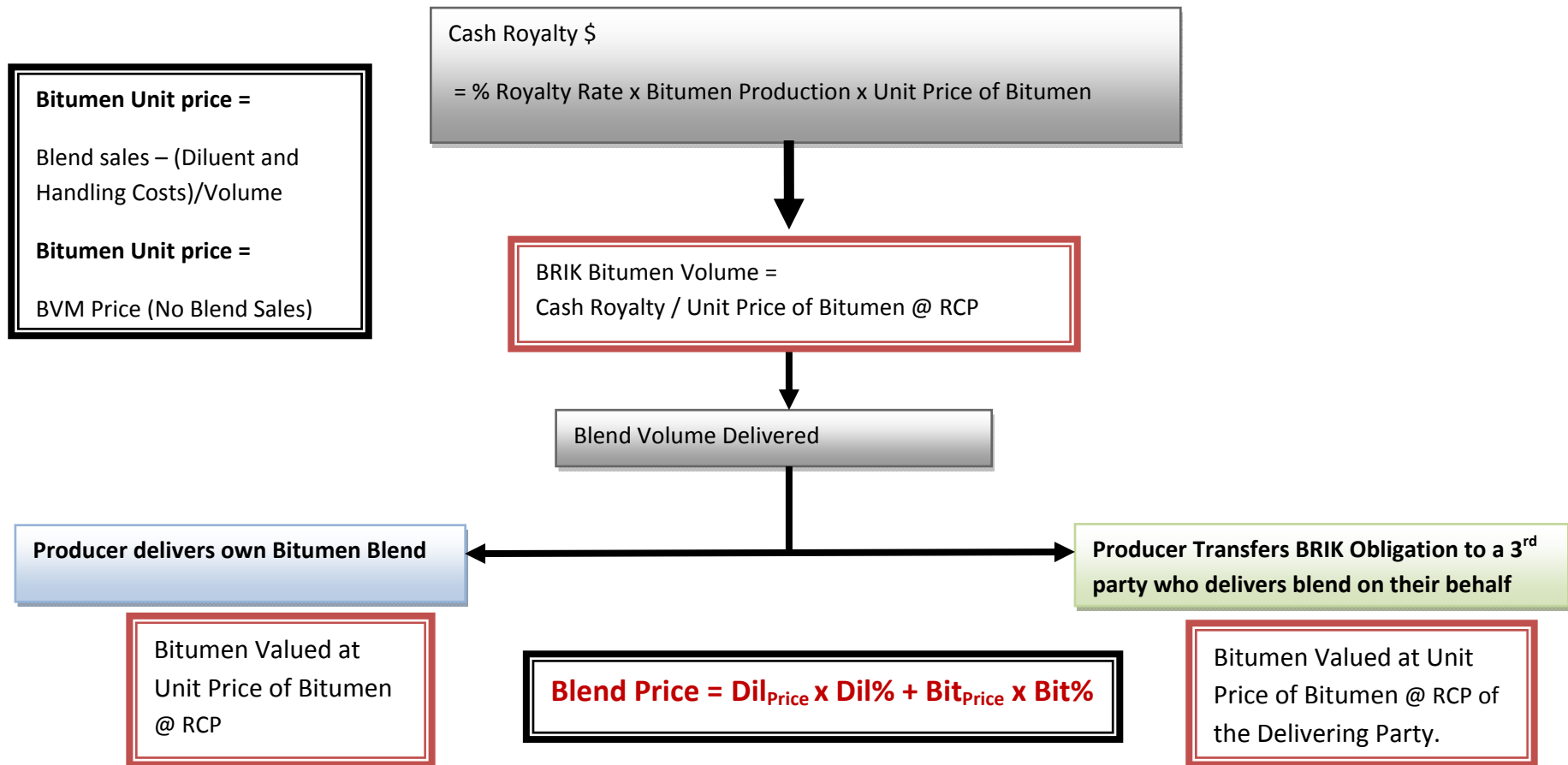
Valuing Bitumen for the BRIK Program

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This Discussion Paper reflects high level information for the Bitumen Royalty in Kind (BRIK) program. This information may be periodically updated.

Valuation Issue

The Crown must value the bitumen received as royalty payment under the bitumen royalty in kind (BRIK) program. In order to preserve royalty neutrality, the Crown has determined that the fairest value of bitumen is the value we use to calculate the cash obligation under the current system. This is the Unit Price of Bitumen at the RCP of each project. The following flow chart depicts the process of determining the volume obligation and the valuation of the delivered blend in terms of bitumen.



Bitumen Valuation for BRIK

Project Specific Unit price of Bitumen @ royalty calculation point (RCP)

For a producer who sells blend at arm's length, the calculation of the unit price of bitumen is:

(Project Revenue from Blend Sales – Diluents and Handling Cost) / Bitumen Production Volume

For NAL sales, the unit price of bitumen is the BVM value of the bitumen at the project RCP.

The Unit price of bitumen can be derived from the current calculation used under cash royalty system to determine the Cash Obligation. The Unit price of bitumen preserves an exact tie to our current cash royalty system, and it eliminates Crown valuation risk while not creating any market risk for producers that deliver their project bitumen directly.

When the Crown calculates cash obligations, it is done in a way where the incentive for the producer to get the highest price on their sales is aligned with the Crown's incentive to get the highest royalty. As such, the Crown considers the Unit price of bitumen to be the best market indication of the fair market value of any bitumen.

BRIK Volume Determination:

Cash Royalty / Project Bitumen Unit Price = BRIK bitumen obligation for that project

The bitumen obligation defined above will be delivered in the form of bitumen blend with the diluents ratio determined from project specific information.

BRIK Volume Valuation:

Bitumen Volume x Project Bitumen Unit Price = BRIK \$ value = Royalty Value of the delivery

Valuing bitumen at the project specific Bitumen Unit Price mitigates any valuation risk for the Crown and gives producers the ability to deliver bitumen from their project at a value which matches their cash obligation.

Bitumen Unit Price Transaction Types

By using the Bitumen Unit Price the Crown can allow three distinct types of transaction in order for producers to fulfill their BRIK Obligation.

- Physical Delivery
- Producer Aggregation
- Bilateral Obligation Transactions

Physical Delivery

All producers subject to BRIK have the ability to deliver project bitumen to the Crown through blended volumes. Using the project specific Bitumen Unit Price, direct delivery matches the values used to calculate the cash royalty obligation under the current system. The same per unit costs that are used for diluents and transportation under the current system are used to reimburse producers for the diluents and transportation cost of the blend delivered to meet the BRIK obligation.

Producer Aggregation

Producers that have more than one OSR project are given the opportunity to aggregate volumes between OSR projects in order to give producers more flexibility in fulfilling their BRIK obligations and to simplify delivery for the Crown Agent. Current discussions are being held as to whether aggregation will be limited to bitumen blend within the same stream, or allow some degree of swapping from one product stream to another.

Bilateral Obligation Transactions

Bilateral Transactions provide further flexibility and convenience for producers to meet their BRIK obligations.

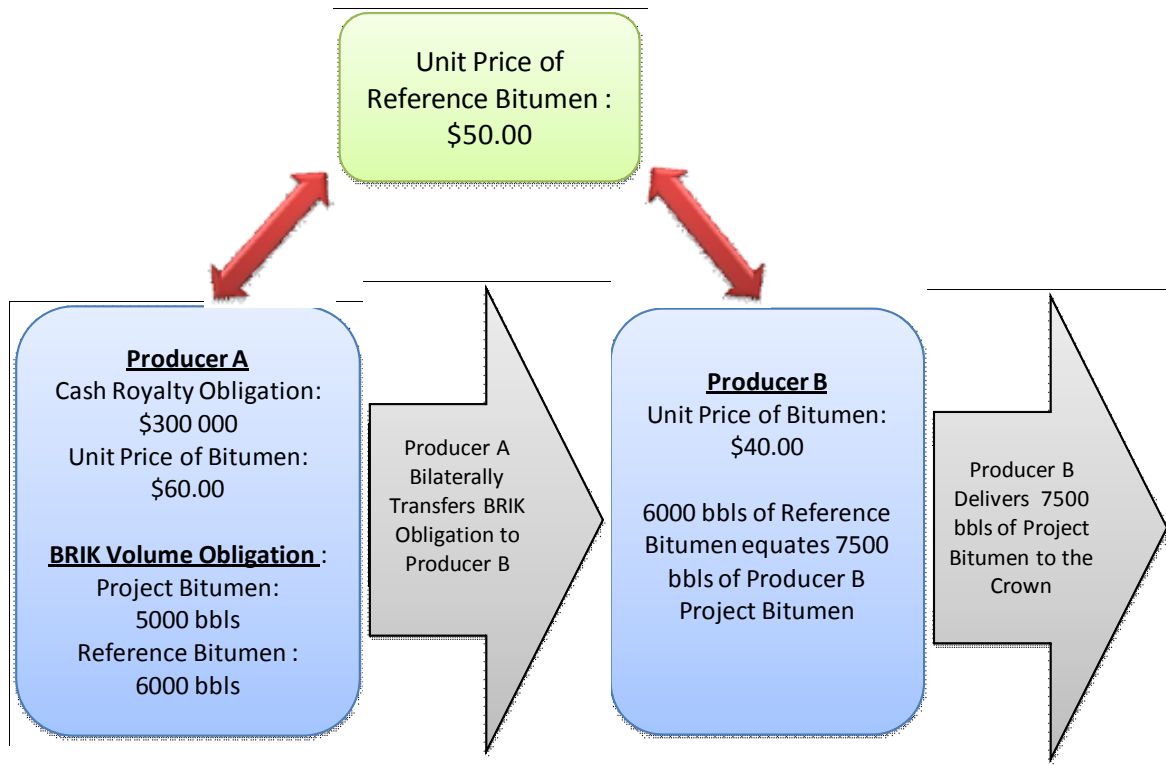
Bilateral transactions allow the transfer of the BRIK obligation from one party to another. Party A will not buy blend from Party B, but will pay Party B to deliver blend to the Crown to offset their BRIK obligation. This ensures that the Crown will always have the information it needs to value the bitumen, diluents and transportation allowance for the delivered blend, without any confidential information passing between parties. Bitumen delivered through bi-lateral transactions will be valued using the delivering project's unit price of bitumen.

In order to facilitate confidential bilateral obligation transactions the Crown proposes the creation and use of Reference Bitumen as a common point of valuation. Any obligation can be

expressed in barrels of project bitumen or reference bitumen so that both parties understand how the obligation translates into barrels from their project, and can price their transaction accordingly. Bilateral obligation transactions provide a framework for the introduction of integrated projects into the BRIK program at a later date.

Reference Bitumen

The unit price of reference bitumen will be determined as the BVM value of a bitumen of defined physical characteristics. This transparent exchange value allows all BRIK bitumen obligations to be expressed in barrels of project bitumen, or reference bitumen. This offers producers the ability to deliver their own bitumen, or pay other parties to deliver bitumen on their behalf. In transacting obligations rather than blend or bitumen, we avoid industry confidentiality issues and the Crown always knows the project unit price of the bitumen delivered.



In the Example Above:

Project A from Producer A has a Cash Royalty Obligation of \$300,000, and has a project unit bitumen price of \$60 per barrel.

The price of reference bitumen for the month is \$50.

Project A Obligation = \$300,000 / \$60 = 5000 barrels of Project A Bitumen

Project A Obligation = \$300,000/\$50 = 6000 barrels of Reference Bitumen

Project A can deliver 5000 barrels of bitumen in blend, and be reimbursed for diluents and transportation that match their cash royalty obligation.

If Project A chooses, they can transact with Project B to deliver on their behalf.

Project A tells Project B they would like 6000 barrels of Reference Bitumen delivered to the Crown. Once they agree on a price, the obligation belongs to Project B, with appropriate notification to the ADOE that a royalty obligation has been transacted.

At this point, Project B deals with the Crown directly. Project A has no information about what Project B will deliver to fulfill the transferred obligation.

Project B knows that 6000 barrels of reference bitumen is equivalent to

Project B Volume = 6000 x \$50 / \$40 = 7500 Barrels of Project B bitumen.

7500 barrels of Project B's bitumen is delivered in blend to the Crown Agent.

The Crown Agent then notifies the ADOE of the volume and source of the delivery. The ADOE then calculates the value of the delivery, and notifies Producer A that their obligation has been met through the performance of Project B.

Why can't Producer A simply buy Producer B's blend and deliver?

Producer A would be required to know Producer B's bitumen unit price, diluent ratio and diluent cost in order to determine what quantity of Producer B's blend needs to be purchased. Allowing bitumen unit price, diluent ratio and diluent cost information to enter the public domain is not supported by Industry. Therefore, the Crown is required to settle with the actual producer of the bitumen in order to determine a fair market price and to maintain industry confidentiality.

Conclusion

The crown believes that the Project specific Bitumen Unit Price is the best method to value deliveries made to fulfill BRIK obligations.

It accurately ties in with the New Royalty Framework royalty calculation, and does not create pricing risk for the Crown or Producers.

It requires that the Crown always know the source of a given bitumen blend delivery, in which case the valuation of bitumen, diluents and transportation will match the per unit values calculated to determine the cash obligation used under the current system.

Oil sands royalties are project based, and one possible implementation of BRIK would be to require delivery of the Crown's bitumen share from every OSR project individually. However, the Crown wants producers to be able to make reasonable decisions about how to meet their BRIK obligation, and has provided for flexibility in doing so.

In addition to delivering their own project volumes, producers gain significant flexibility to meet their BRIK obligations through aggregation, and the ability to enter into bilateral transactions using reference bitumen. Since the Crown is always dealing directly with the producer of a bitumen blend, industry confidentiality is protected.

There will be further discussion and more details as to the exact levels of aggregation to be allowed, and the mechanics of the diluent payback, but the methodology to value bitumen for BRIK purposes, and to value the diluents contained within the delivered blend are most accurately determined by the Unit Price of Bitumen on a per OSR project basis.

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