

Suggested Solutions

Summary of Disposition

Yes Solution is considered viable as part of a potentially larger solution or as an entire solution.

Parked No further analysis is required at this time.

<u>Solution</u>	<u>Preliminary Disposition</u>	<u>Final Disposition</u>
1. Postage stamp rates for capital	Yes	Yes
2. Use joint venture information to calculate royalty	Parked	
3. Jumping Pound 1990/1995 for each facility	Parked	
4. Operator deemed to be responsible for all Crown royalty	Parked	
5. Crown buys equity position in facilities	Parked	
6. Crown takes raw gas volumes in-kind	Parked	
7. Eliminate vintage	Parked	
8. Royalty on pool basis vs. well level	Parked	
9. Royalty as flat percentage of sales	Parked	
10. Ring fence Alberta – Crown royalty as net profit interest	Parked	
11. Potter Liddle regional rates	Parked	
12. Crown sells royalty interest	Parked	
13. Write off remaining capital	Yes	Parked
14. S-1 royalty trigger calculation	Yes	Parked
15. Align eligible and non-eligible costs	Yes	Yes
16. Determine stream components at wellhead and assess Crown charges on component rates	Yes	Parked
17. Flat royalty rate on production	Parked	
18. Price and production sensitive royalty rate on raw gas, residue gas and products	Yes	Parked
19. Reduce assessed Crown royalty by a % compensating for elimination of existing Allowable Cost deductions	Yes	Parked
20. Set separate royalty rates for different products allowing for costs	Yes	Parked
21. Introduce third tier of gas with only implicit cost recognition	Yes	Parked
22. Pay royalty on residual gas and NGL mix via the S-1	Yes	Parked

Solution	Preliminary <u>Disposition</u>	Final <u>Disposition</u>
23. Remove holiday and special cases and adjust royalty rate	Parked	
24. Special treatment for mature properties	Parked	
25. Merge freehold mineral rights tax with royalty process	Yes	Yes
26. Shared information registries in electronic media at well-event owner	Yes	Yes
27. Operator pays royalty when operator is agent for the working interest owner	Yes	Parked
28. Crown waives <i>nuisance</i> royalty assessments by well event	Parked	
28aa. Crown waives <i>nuisance</i> royalty assessments below monthly/annual dollar hurdles	Yes	Yes
29. Remove differences between field pentanes/plant pentanes.	Yes	Parked
30. Royalty calculated on average well production in a pool.	Yes	Parked
31. Paydown to average if average capital used (transition for #1)	Yes	Parked
32. Saskatchewan royalty model	Parked	
33. BC royalty model	Parked	
34A. Gross wellhead royalty based on GJ's and reference price and reduced GCA	Parked	
34B. Net wellhead royalty based on GJ's and reference price and no GCA	Yes	Parked
35. Crown lifts some or all segregated products in-kind	Yes	Yes
36. Flat royalty rate up to 80% production of the pool	Parked	
37. Pool gas analysis (heat content determination)	Yes	Parked
38. Retain existing business rules/processes; replace OAS	Yes	Yes
39. Retain existing business rules/processes; modify custom processing	Yes	Yes
40. Retain existing business rules/processes; modify S-reporting	Yes	Yes
41. Plant inlet option	Parked	
42. Actual costs incurred	Parked	

1. Postage stamp rates for capital

Description

Maintain current gross royalty curves and UOCR deductions and provide a single (or several) deduction(s) for capital costs that are expressed as a single rate for some category of gas – Unit Capital Cost (UCR). Apply in the same fashion as UOCR (on GJ quantity at the EUB facility level). Custom processing is the sum of UOCR + UCR at the facility.

Preliminary Disposition

Retain for further analysis.

- Question: will the postage stamp rate have provision for \$/month as well as \$/volume to recognize high capital cost facilities?

Final Disposition

Forms part of the recommended regime.

- Unit Capital Rates on price-factored volumes to be calculated at each EUB facility.

Features

- Can be applied to wellhead measurement, but is calculated at plant gate and an allocation mechanism is required.
- Proposal is for plant type, but could be rolled up to average regional rates or allocated out to reservoir based postage stamp rates.

Related Issues and/or Prerequisites

- No changes to UOCR's.
- Can be modified for wellhead, but mostly applicable to plant gate trigger point.
- Requires volumetric change in rate by class as highly volumetrically related.

Pro's

- Further simplification of current system.
- Recognizes current differential costs of processing by plant or other general category.
- Provides incentive for reducing capital costs through rationalisation, etc.
- Minimal initial distributional impact as based on review of existing costs.

Con's

- Does not reflect actual capital changes over time the same way as the current accounting system since costs of capital change with additions, shut downs, and depreciation.
- May need updating mechanism that could involve more administration.
- Will need mechanisms to reflect changes to system, such as plant closure, in the allocation rules (if at a well level). Plant type rates may cause distortion of some decisions to shut down plants, produce wells, etc., if less economic rate gets higher UCR's.

2. Use joint venture information to calculate allowable costs for royalty purposes

Description

Use the business rules and information from the joint venture billing process as the basis for determining allowable costs for purposes of establishing net Crown royalty. Standardization of the description of costs and the source of costs to be consistent with the joint venture billing process currently in place within industry. Cost eligibility to be consistent with current industry practice. If a cost is eligible for the joint venture billing, it is an allowable cost for Crown royalty purposes.

Preliminary Disposition

- Parked. No further analysis because:
 - Joint venture billing is not consistently applied across industry.
 - Not all facilities currently have joint venture billing requirements.
 - Lack of consistent information on joint venture billing.
 - Benefits are limited.
- Consider as a continuous improvement upgrade only if a system based upon actual cost reporting is selected.
- Further analysis requires assessment of how tight joint venture billing rules are from agreement to agreement.

Features

- The standardization of the description of costs and the source of costs is to be consistent with the joint venture billing process currently in place within industry.
- Cost eligibility is to be consistent with current industry practice. If a cost is eligible for the joint venture billing, it is an allowable cost for Crown royalty purposes.

Related Issues and/or Prerequisites

- The use of the joint venture billing process requires a system that is based on the reporting of actual cost information. It could be directly applied as an enhancement to the existing system, but does not have any relevance in a system that uses a proxy for cost.

Pro's

- Likely to be minimal distributional impacts in both the near term and longer term.
- Provides a method of reflecting costs incurred.
- Rules consistent with current industry practice; as such, it should eliminate the time and effort of dealing with audit exceptions.
- New rules regarding allowable costs can be easily implemented.

Con's

- Does not reduce number of transactions in either the near term or the longer term.
- Potential of exposure for the Crown, particularly if rules are open to interpretation.
- Minimal administrative saving, if any, in annual reporting.
- Increased work required in those many facilities where there currently is no joint venture billing. Industry representatives advise that the bulk of the small feeder lines are 100% owned by an individual company.

3. Jumping Pound 1990 or 1995 established for each facility cost centre

Description

This solution eliminates the need for allowable cost filing on an annual basis, replacing this with a Jumping Pound based allowable cost per unit for each unit processed through each facility cost center or, potentially, each EUB Facility.

Preliminary Disposition

Parked. No further analysis.

- Are costs and negotiation difficulties in determining 12,514 unique rates and the global transitional complexities.
- Has unknown and possibly non-quantifiable distributional impacts.

Features

- Royalty curves remain sensitive to price and level of production.
- Calculation of a cost per unit for each facility cost center or EUB facility that includes the components of Jumping Pound 1990 or 1995 agreement, which are:
 - Depreciated capital cost
 - Operating Cost - **ALL** annual costs of operating and maintaining the facility + 10% Overhead.
 - Return on Rate Base (Average Capital invested + Average Working Capital)
- Jumping Pound allowable cost rates may be escalated year over year by an appropriate index.
- *Lost GCA* issue is avoided if rate is applied to all volumes regardless of facility ownership.
- Denominator may vary as design capacity may or does not equal actual capacity, i.e., may be more or less.

Related Issues and/or Prerequisites

- May be incorporated with other broader solutions.
- Operating cost information for all facilities has to be collected and the rules of Jumping Pound interpreted and applied in each instance. As at December 1996 there were 12,514 registered facility cost centers.
- Design and actual capacity may need to be captured and maintained current for each facility.

Pro's

- Reduction in allowable cost filings by operators and custom process users.
- Actual royalty bill may move to a monthly vs. annual, 13th month settlement.
- Crown's sharing in costs is predictable and fair and reflects current investments.
- Supports freehold mineral tax solutions.

Con's

- Establishing initial allowable cost rates is onerous, complex and may have distributional impact.
- Procedure is required for establishing rates for new facilities.
- Selection of an index that represents industry spending patterns is difficult.
- True value of the facilities, considering age, depreciation, utilization rates, etc. may not be readily determined.
- This is using Jumping Pound for a purpose for which it was not designed nor intended.

4. Operator deemed responsible for payment of Crown Royalty

Description

The operator of a well or facility is responsible for payment of Crown royalties for all working interest owners. Operators are responsible for collection from partners either before or after remittances are made to the Crown.

Preliminary Disposition

Parked. No further analysis.

- Such a deeming of responsibility does not provide flexibility to the industry to take the best course of action given a certain set of circumstances.
- Alternative solution #27, which provides for the operator to act as an agent for those working interest owners not lifting in-kind, is more appropriate and provides the necessary flexibility to fit with certain other components of simplification.

Features

- Variations could include the situation where the operator only pays (Oct. 14 SEPAC I/P – linked to Solution 27) Crown royalties for parties that do not have their own marketing arrangements (where the Operator acts as an agent in moving material into the market place).
- (Oct 14 – SEPAC I/P) Centralized well registry is required; responsibility defaulting to the operator unless the operator and partners agree to an alternative course of action.

Pro's

- Less administration for government; client list is significantly smaller.
- Eliminates need for centralized owner registry as the operator is responsible for maintaining this information in their own company.
- Reporting is less as the OAS or a similar report is not necessary because the Crown royalty could be paid on volumes reported on an S-1-like report.

Con's

- Administration remains with industry and becomes a joint venture collection procedure; an increase in administration for operators.
- Collection problems could occur; cash calls required by operator.
- May require operators to implement financing mechanisms.
- Joint venture departments often do not understand the calculation of Crown royalties and, therefore, will have a difficult time making sure that the calculation is correct.
- Problems are anticipated in keeping current records with respect to property purchase and sales. This is already a significant problem for industry, and putting the onus strictly on operators intensifies matters.
- (Oct 14 – SEPAC I/P) May violate joint venture accounting agreements.
- (Oct 14 – SEPAC I/P) Working interest owners who take in-kind frequently pay Crown royalty before receiving sales proceeds.

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- (Oct 14 – SEPAC I/P) Requires an agreement between the operator and working interest owner as to when sales proceeds are received if you are not taking in-kind and, as per this solution, the operator is paying your Crown royalties.

5. Crown buys equity position in those facilities processing Crown royalty volumes

Description

The Province purchases an equity position in each of the 12,514 (December 1996) facilities (pipelines, compressors and processing facilities) at which Crown royalty volumes are processed.

Preliminary Disposition

Parked - no further analysis.

- The proposal fails a reasonability check; it is counter to the government direction and philosophy that government should not be actively getting into business.
- Exacerbates many of the short comings of the current regime.

Features

- This simplification proposal was raised in conjunction with the proposal that the Crown lift royalty volumes in-kind (solution #6). The variation is that the Crown negotiates custom processing agreements at each such facility noted above, rather than as in this proposal, which calls for a *purchase*. An alternative is a combination of purchases and custom processing.

Related Issues and/or Prerequisites

- Related to a proposal that the Crown lift royalty volumes in-kind (solution #6).

Pro's

- Removes the issue of the Crown not sharing in 100% of pro-rata costs of gathering, compressing and processing.
- Facilitates a proposal that the Crown lift royalty volumes in-kind.
- Equity in facilities fully depreciated for Crown royalty purposes could be transferred.
- Could clarify Crown responsibility around reclamation costs.

Con's

- Does not address any of the strategic issues; makes many of them more pronounced.
- Crown is exposed to historical liabilities at particular sites.
- Inconsistent with public opinion that the government get out of doing business.
- Magnitude of the potential dollar impact of the purchases is beyond the Province's financial resource capacity. Undepreciated capital pool at December 1996 is \$6.9 billion.
- Increases the level of government involvement in business processes, e.g., joint venture billing.
- Forced purchase situation distorts market values.
- Negotiation could involve substantial administrative time.
- Difficult, costly transition is required

6. Crown royalty volumes taken in-kind

Description

Royalty volumes are established as per the royalty formulae, with the Crown then taking ownership, arranging for processing and/or disposition of raw gas royalty volumes and marketing the segregated product. The Crown is required to make the necessary arrangements to acquire, either through ownership or contracted services, gathering, compression, processing, and transportation capacity.

Preliminary Disposition

Parked. No further analysis.

- The Crown taking an ownership position or negotiating individual custom processing arrangements for each of 12,000+ facility cost centers does not address strategic issues nor pass a reasonability test.
- Parts of the proposal run counter to the general public feeling and political direction that the Crown get out of doing business.
- Some elements may become part of a larger solution.

Features

This simplification proposal was raised in conjunction with one or both of the suggested solution proposals:

- Solution #3 Establish Jumping Pound based custom fees by facility.
- Solution #5 Crown buys an equity position in each facility processing Crown royalty volumes.

A variation is that the Crown, having had possession up to the point of final separation of segregated product, turns ownership of some or all of the segregated products back to the working interest owner who then takes such products to the market place. The Crown receives a predetermined percentage of each working interest owner's corporate or facility specific netbacks.

Related Issues and/or Prerequisites

- Related to solutions #3 and #5, as noted above.
- Related to solution #16, determination at the wellhead of the components of the gas stream (analysis or allocation processes) with the Crown assessing royalty on each such specification product.

Pro's

- Potentially easier for industry (Oct 14 – SEPAC I/P). Note: this is not a widely held view among SEPAC's membership.
- Removes issue of the Crown not sharing in 100% of pro-rata costs of gathering, compressing and processing.
- (Oct 14 – SEPAC I/P) Removes reference price inequalities.

Con's

- Variations involving hardware equity purchases or negotiated custom processing do not address strategic issues.
- The Crown is exposed to aspects of business not currently staffed/financed.
- The Crown taking in-kind may be inconsistent with public opinion and industry pressures that the government get out of doing business, e.g., the restructuring of the APMC's role and the revised marketing arrangements for Crown royalty oil.
- Financial implications of the necessary infrastructure acquisition are substantial. December 1996 undepreciated capital pool is \$6.9 billion.
- Alberta's taking an equity position in facilities increases the level of government involvement in daily industry processes, e.g., joint venture billings.
- Cost and level of effort and market distortions caused by implementation are enormous.
- Royalty volumes in one set of marketing hands could be seen to dominate the market.
- A variation that sees the Crown return royalty volumes to the working interest owner at the plant outlet - results in a return to the pre-1994 valuation methodology and its related problems, most notably increased audit activity and non-arms-length disputes.

7. Eliminate vintage

Description

The proposal is that the elimination of vintage generates a degree of simplicity in the current business environment. Vintage in this context refers to *Old* natural gas and *New* natural gas. *New* natural gas typically is gas discovered after 1973. The difference in treatment for Crown royalty purposes is the higher royalty rate associated with *Old* gas.

Preliminary Disposition

Parked. No further analysis.

- Few, if any, of the strategic issues are addressed.
- Windfall realized by the working interest owners if the New rate becomes the only rate results in a substantial revenue loss to the Crown with minimal likelihood of seeing the increased industry cash flow invested in Alberta resource development.
- Windfall that accrues to the Crown if the single rate is set as the Old rate is not seen as a desired outcome.
- On a stand alone basis, minimal industry realized simplification exists and from the Crown perspective the up-side in terms of reduced administration is less obvious.

Features

- Options are that the single rate be equal to one of:
 - the current *Old* rate,
 - the current *New* rate,
 - a blend of the two.
- To minimize the negative impact on either the Crown or industry possibly requires some reasonable phase-in mechanisms.
- A blended rate, which on a gross basis is Crown-royalty neutral, has substantial individual company impacts, perhaps still necessitating a phase-in period.

Related Issues and/or Prerequisites

- May be related to:
 - solution #23 - the removal of holidays and special cases.
 - solution #24 - special treatment for mature properties.

Pro's

- In the event of new computer systems, development may marginally reduce cost.
- May be some administrative savings on the part of industry (minimal and not quantifiable).
- Simpler, although no significant gain.

Con's

- Does not address any of the strategic issues.
- Substantial distributional impacts will occur under any one of the three options.

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- May require a reasonably long introduction transition to address the cash costs associated with the distribution.

8. Royalty on a pool basis vs. well level basis

Description

For low productivity gas wells, royalties are calculated on the basis of pool reserve estimates.

Preliminary Disposition

Parked. No further analysis.

- (Oct 14 – SEPAC I/P) Precise data is need at a well or well event level for the most part, with precise measurement to determine ownership and to address other economic requirements. Shallow gas units may well benefit from this suggestion.

Features

- Is this necessarily limited to low productivity wells?

Related Issues and/or Prerequisites

- May be a technical resource management need for individual well production data.
- Government collection of well production data in a standard mode may add value to all stakeholders.
- Precise measurement for royalty purposes requires that plant sales volumes be used (refer to solution #9).

Pro's

- Eliminates need for costly measurement equipment at wellhead, something other solutions may call for but which does not necessarily exist today.

Con's

- Eliminates precise calculation of Crown royalty based on well production volumetrics.
- Does nothing to eliminate concurrent activities on freehold or native lands.
- Makes matters worse in those cases where the Crown/freehold split is at the well level.
- (Oct 14 – SEPAC I/P) Harder to quantify and not tied to economic value.
- Difficult to determine Crown royalty and other royalty payment responsibility.

9. Crown Royalty as one flat percentage of province-wide specification product sales (sales gas and liquids)

Description

Crown royalty is rationalized at one net rate. The royalty rate carries implied costs and reflects vintage, special cases, holidays etc. in order to minimize Crown revenue loss.

Preliminary Disposition

Parked - no further analysis.

- Violates the non-negotiable royalty principle of having price and production sensitivity without an alternative for ensuring the Crown's share is fair across different resources and price situations.

Features

- One royalty rate applies to all products. There are no sliding scales to reflect price or productivity. Grandfathering may be required for low productivity benefits currently in existence.

Related Issues and/or Prerequisites

- Need to set royalty rate to provide for the elimination of allowable costs.
- Causes a requirement to address the issue of low productivity wells as the flat rate exposes certain situations to premature shut-in.

Pro's

- Reduces government involvement in day to day business.
- Eliminates allowable cost issues.
- Simple to administer.

Con's

- Very likely to result in calls for special cases and incentive programs for higher-cost resources and in response to any lower prices.
- Possible significant distributional implications of going to single flat rate.
- Substantial *win* for those royalty payers with liquids rich production.
- Crown is exposed to substantial risk and cost in establishing value of individual sales by company and by product and preferential streaming of non-Crown products to highest value markets.
- Does not recognize the North American supply pool business approach that is now prevalent. Requires ability to audit outside of Canada, which may not be possible on other than a voluntary basis.
- May cause premature shut-in of some production.
- Difficult to establish the *correct* rate.
- Difficult to maintain accuracy of rate to reflect *economic rent* concept.
- Does not reflect the concepts of economic rent and is not price and productivity sensitive in any way.

10. Crown royalty levied as a percentage of net operating income in Alberta

Description

Crown royalty is effectively delivered similar to an *income* tax levied on Alberta income.

Preliminary Disposition

Rejected.

- Does not satisfy the non-negotiable constraints.

Features

- In essence *royalty* is driven by profitability.

Related Issues and/or Prerequisites

- Based on net income – integration with taxation rules.
- May eliminate certain administrative issues surrounding Alberta Royalty Tax Credit (ARTC).
- Question: Would all *income-based royalty rates* be flat as is corporate tax?

Pro's

Con's

- Significant distributional implications. Initial analysis based on Petroleum Monitoring Agency data for 1981-1994 shows transfers of from \$200 million/year to over \$400 million/year (depending on definitions of net income used) in royalty liability between classes of company size and operation (integrated, junior, intermediate and senior).
- *Rules* are extensive and complex (consolidations, transfer pricing).
- Crown is at serious risk of leakage.
- Administration effort for Crown is increased.
- Does not reflect the concepts of economic rent and is not price and productivity sensitive. These are non-negotiable constraints.

11. Use Potter-Liddle mechanisms to establish heat content of raw gas

Description

The Potter-Liddle system of establishing energy (natural gas) production on a month-by-month basis is based on S-1 production multiplied by known heat content (GJ's 1000 cubic meters) of the source area. The attributable energy content of each unit of production is revised as information becomes available through EUB efforts or quality gas analysis supplied by the industry.

Preliminary Disposition

Parked. Concept transferred to Solution #37.

- Based on discussions with Harvey Halliday at the EUB it has been determined that this is **not** a viable alternative for determining the heat content of any specific raw gas production. The rationale is simply that within a Potter-Liddle area (province has between 72 and 81 such 3 dimensional areas) there can be substantial differences between the minimum energy content, the maximum energy content and the resulting average that is then attributed to the specific Potter-Liddle area. Such differences drive disagreement and require substantial cost and effort to resolve.
- Solution # 37 based on pool gas analysis is open as an alternative method of determining raw gas energy content.

Features

- Based on a scientific but not an absolutely proven methodology.
- Ownership of process is now resident in EUB.

Related Issues and/or Prerequisites

- Presumes a wellhead royalty using something akin to the S-1 to measure wellhead effluent.
- Requires that raw gas be valued based on GJ's rather than specification products.
- Requires revised royalty curves to address allowable costs, liquids content, vintage, low productivity etc.
- Assumes elimination of GCA - capital and operating.

Pro's

- Uses a system that is in place and that, while it has *tolerances*, has proven reliable.
- Recognizes, on an area basis, the inherent value of liquids-rich gas.
- Drives royalty determination to the wellhead thus reducing government involvement.
- Allows royalty determination certainty.
- Facilitates the operator being responsible for those working interest owners not lifting in-kind.
- Builds on the use of existing reference price mechanisms.
- Works equally as well for freehold property.

Con's

- Heat content determination is not exact.
- Requires technical staff (field and geology) to audit and update effluent characteristics.

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- There may be major differences within a designated pipeline area, i.e., one pool may be sweet and dry and immediately adjacent could be a wet sour pool or, in fact, an oil pool with solution gas.
 - Recognizes increased value of liquids but not the associated uplift of specification product.

12. Crown sells the Province's royalty interest in the reserves

Description

The Crown literally disposes of Alberta's ownership interest of the mineral deposits. It is assumed this will be done on some form of net present value basis and likely using a bid process.

Preliminary Disposition

Parked - no further analysis.

- The proposal fails the reasonableness test. There are too many uncertainties and unknowns to provide calculations acceptable to any of the stakeholders.

Features

- Disposal is undertaken by way of a sale either by tender or auction.

Related Issues and/or Prerequisites

- Reserve volumes and productivity may not be determinable within a reasonable degree of precision.
- Value of reserves depends on future and uncertain commodity prices.
- Discount rate used for npv calculation is based on future and uncertain interest rates.

Pro's

- Government is out of business at the earliest possible opportunity.

Con's

- Significant amount of soft and disputable analytical work required up front to determine one-time valuation.
- Administration for royalty moves from government to operator/owners unless the operator acquires 100% of reserves. Significant increase in complexity and variation of lease arrangements.
- Potential disputes if reserves water out earlier than anticipated.
- Crown loses out on royalty with increased advances in technology that permit greater recoverable reserves.
- Valuation of as yet unexplored/unproven areas/formations is suspect.
- Industry's interest in such a disposal is seen to be minimal from previous efforts.
- One-time marketing softens prices well beyond reason.
- Process needs to be created to resolve disputes over different interpretations of discount factors.
- Industry's ability or willingness to commit the envisioned one-time capital is suspect.

13. Write-off remaining undepreciated capital pools

Description

All remaining net capital pool balances for all existing GCA facilities are written off over a fixed time frame of 3 to 5 years

Preliminary Disposition

- Accepted for further consideration as a transition mechanism should the need exist.
- Note: it is suggested that if this mechanism is used, all eligible capital should be tied back to individual wells based on an agreed methodology, and the write-off should then be tied to the royalty obligations of a specific well's production/royalty. This necessitates other special actions for custom processors.

Final Disposition

Parked – no further analysis.

- Inefficient mitigating strategy. Feasible only if adjust capital at a facility - both winners and losers benefit by this.

Features

- This process applies to un-amortized capital pool balances associated with allowed facilities used to process the Crown's share of natural gas.
- New capital is not recognized as land disposition rules and royalty curves provide for implicit capital costs.
- Process requires lower gross royalty rates.
- Process may include an increase to royalty rates during transition.

Related Issues and/or Prerequisites

Pro's

- Easy to administer.

Con's

- Difficult to assign a Crown share factor.
- May cause quantum change.
- Necessitates separate calculations for freehold/aboriginal lands.
- May be a disincentive to new investment.
- Shifting of funds between years due to allowance/non-allowance of costs could be complicated.
- Capital pool balance at December 1996 is \$6.9 billion. A 3 to 5 year write off has a profound impact on Crown cash flow.

14. S-1 royalty trigger calculation based on heat content

Description

Royalty volume is triggered at S-1 reporting level on raw gas production with the well specific heat content established through analysis, historical data or alternate options such as Potter-Liddle or pool gas analysis. Ownership is best recorded in a central registry (perhaps maintained by the Crown or any other appropriate party) with changes kept up to date by industry.

Preliminary Disposition

- Accepted for further analysis.

Final Disposition

Parked – no further analysis.

- Cannot measure volume or heat content accurately at the wellhead.

Features

- A variation is solution #23, royalty trigger on S-1 on sales volume for gas and NGL's. The royalty trigger could be on either sales or production of gas or gas and NGL's. Valuation is a reference price issued monthly by the Crown or the actual price received (well or plant specific or using a corporate average net back value). Royalty curves have to be put in place to reflect different types of gas, elimination of allowable costs, etc.

Related Issues and/or Prerequisites

- Heat content based operator input from gas and liquid analysis; Department of Energy input using historical data for each well; or EUB input using reservoir/pool heat content. The suggested Potter Liddle mechanism (#11) has been *Parked*.
- Volumes-measured production input by operator; reserve estimate by EUB or operator; an estimate based on previous historical production or an estimate based on known pool production.
- UWI - must have discreet ownership and royalty information for each event. This could be accomplished by a unique well identifier for each zone in a well that could be rolled up by the Department for low productivity calculations, etc. Perhaps a new well reporting system could be created as horizontal wells currently pose problems. This also eliminates some of the penalty compliance fees that are being put in place by the EUB.
- Fuel, flare, metering difference - royalties could be paid on all of these. This helps in environment issues. If a plant must flare because of technical matters or a force majeure situation then perhaps an appeal process could be put in place that considers exemption from paying royalties on such consumed volumes. There could also be an annual filing of flare, fuel and metering difference that initiates a 13th month adjustment to Crown royalty payments.
- Have to deal with royalty curve to reflect the type of gas, low productivity and the cost of getting the gas to market. Many of the other solutions identified have to be dealt with in association with this solution.
- A fair and equitable valuation method must also be put in place to value Crown volumes based on heat content.
- All current reports now in place have to be reviewed and modified or, as appropriate, eliminated. This includes all reports submitted to EUB and the Department monthly and annually.

Pro's

- Less administration for industry, the Department and EUB.
- Government could issue an invoice on volume reported from S-1.
- Should not create a problem for the oil royalty program.
- Simplicity.
- OAS and its related problems disappear.

Con's

- Ownership registry needs to be kept current by industry or government on a monthly basis.
- Major system changes for all concerned.
- Learning curve.
- All current reports have to be modified or eliminated to simplify the system.
- No recognition of the GJ uplift associated with specification liquids.
- Anticipate significant distributional impacts associated with shift in royalty burden currently carried by specification liquids

15. Align eligible/non-eligible costs

Description

Develop detailed listings of GCA eligible costs as well as specifically excluded costs. There is also a need to compile similar detail associated with standard recognized costs in the joint venture arena.

Preliminary Disposition

- Accepted for consideration in any proposal that contains an allowable cost mechanism.

Final Disposition

Forms part of the recommendation.

- Allowable cost rules to be documented, clarified and aligned with standard industry accounting rules and processes.

Features

- Lists should be used in conjunction with current eligible/non-eligible schematic.

Related Issues and/or Prerequisites

Pro's

- Reduces audit effort since rules are more clearly defined.
- Removes uncertainty from filing of costs.
- Ensures a more level playing field.
- Crown is seen to be sharing in costs on a more pro-rata footing.

Con's

- Differences that exist for freehold and aboriginal lands remain.
- Crown may be exposed to cost sharing that is not intended at this juncture.

16. Determine stream components at wellhead and determine royalty on an identified component basis

Description

Allocate specification production back to the well event owner level as per existing industry mechanisms and processes. This does not require any further effort nor establishment of processes.

Preliminary Disposition

Accepted for further analysis.

- This is a viable option for determining Crown royalty volumes applicable to well event production.
- Will be considered as one of the options for determining the Crown share of production at the well event level on a monthly basis.

Final Disposition

Parked – no further analysis.

- Cannot measure volume or heat content accurately at the wellhead.

Features

- Specification product allocations based on existing industry business processes.
- Can be utilized in conjunction with elimination of allowable costs.
- Can be utilized with an S-1 triggered royalty process.
- Ensures the Crown has the actual capability to lift Crown royalty volumes in-kind.

Related Issues and/or Prerequisites

- Is or may be employed in conjunction with solutions # 4, 14, 19, 20, 25 and 27.
- Requires revised royalty curves to address allowable costs, vintage, low productivity, etc.

Pro's

- Recognizes the value associated with specification liquids as contained in the raw gas.
- Allows for royalty determination at the wellhead, thus reducing government involvement in downstream activity; allowable costs can go.
- Allows royalty determination certainty in terms of allocations and timing.
- Facilitates having operator be responsible for those working interest owners not lifting in-kind.
- Builds on the use of existing reference price mechanisms.
- Works equally as well for freehold mineral rights tax.
- Minimizes, if not eliminates, valuation-related distributional impacts.
- Fits well with the concept of a centralized data registry and central processing.
- Delivered by way of leveraging existing industry processes.
- Allows for the elimination of certain S reports and/or data elements.

Con's

- May require standardization of allocation processes.
- May require standardization of re-allocation processes.
- Crown lifting in-kind (specification product) imposes incremental administrative burden on operators.

17. Crown royalty as one flat percentage of production, i.e., all natural gas production province wide

Description

There are two alternatives.

- Alternative A: the flat percentage is on raw gas production.
- Alternative B: the flat rate is applied to specification product at the outlet of the final point of processing.

The business rules driven by each of these alternatives are significantly different.

Preliminary Disposition

Parked - no further analysis.

- This proposal runs counter to the non-negotiables, which call for the Crown royalty regime to be price and productivity sensitive.

Features

- Alternative A: flat percentage of raw gas production:
 - Simple to use in and of itself, but drives Crown involvement in further processing.
 - Not price or productivity sensitive.
 - Almost impossible to establish a province-wide royalty rate that is *fair*.
 - Huge distributional implications.
- Alternative B: Flat Percentage of specification production:
 - Simple to use.
 - Not price or productivity sensitive.

Related Issues and/or Prerequisites

- Alternative A:
 - Crown requires facility ownership and/or custom processing agreements.
 - Causes a requirement to address the issue of low productivity wells as the flat rate exposes certain situations to premature shut-in.
- Alternative B:
 - Maintain existing allowable cost rules OR set the flat royalty rate on specification product so as to provide for the elimination of allowable costs.
 - Causes a requirement to address the issue of low productivity wells as the flat rate exposes certain situations to premature shut-in.

Pro's

Con's

- Significant distributional implications of going to a single flat rate on raw gas.

-
- Neither Alternative A nor B reflects the concepts of economic rent, i.e., price and productivity sensitive.
 - Not particularly well suited to integrating freehold mineral rights tax nor aboriginal lands.

18. Price and product sensitive royalty rate on raw gas, residue gas and products

Description

Determine a new set of royalty curves that are sensitive to raw gas (total GJ's) production as a proxy for unit well cost, unit processing cost, and that are sensitive to changes in average price from month to month.

Preliminary Disposition

Retain for further analysis.

Final Disposition

Parked – no further analysis.

- Industry is not prepared to see costs in the royalty curve, which makes the costs sensitive to price and productivity.

Features

- Wellhead measurement includes all GJ's produced.
- No explicit deduction for any cost.

Related Issues and/or Prerequisites

- Production curve is not necessarily good shape for processing as processing is not as directly a function of individual well productivity as well costs are.
- Could include GJ uplift to account for liquid values.
- If no liquid value recognition, liquid extraction costs beyond basic gas conditioning should be removed.

Pro's

- Relatively simple and industry can adjust easily.
- Has sensitivity to revenues and costs and changes are shared accordingly.
- Implicit royalty on flared and fuel gas with an overall reduction in royalty that discourages inefficiency and environmental degradation.

Con's

- Could over- or under-calculate costs as the price sensitivity changes. This is less a problem for well production costs as they are most significant at low productivity end.
- Fails to recognize Crown interest in natural gas liquids value as feedstock.
- Distributional impact through averaging, and cost/gain to Crown due to dropping liquid values and costs and readjusting curves for differences.

19. Reduce assessed Crown royalty by a percentage to compensate for elimination of existing allowable cost deductions

Description

Maintain current gross royalty curves and provide a single or several deductions for cost, which are expressed as a percentage of the gross royalty.

Preliminary Disposition

Retain for further analysis as part of a larger solution.

Final Disposition

Parked – no further analysis.

- Industry is not prepared to see allowable costs in the royalty curve
- Features
- Could be applied at wellhead or plant gate.
- No explicit deduction for any cost.

Related Issues and/or Prerequisites

- Production curve is not necessarily a good shape for processing as processing is not as directly a function of individual well productivity as well costs are.
- Could include GJ uplift to account for liquid values.
- If there is no liquid value recognition, liquid extraction costs beyond basic gas conditioning should be removed.

Pro's

- Relatively simple.
- Has some sensitivity to revenues and costs and changes are shared accordingly.
- If there are several percentage reductions, i.e., dry/wet, sweet/sour, it could reflect some differential costs.
- Unlikely to shut down many existing wells or facilities due to gross curve still having production sensitivity.

Con's

- Could over- or under-calculate costs as the price sensitivity changes. Less a problem for well production costs as they are most significant at low productivity end.
- Fails to recognize Crown interest in natural gas liquids value as feedstock.
- May require transition rules for remote leases currently held but not producing.
- Cost/gain to Crown and industry as a function of price changes in the market (applies a percentage of changing amount to a largely fixed cost).

20. Set separate royalty curves/rates for different products allowing for costs

Description

Change current gross royalty curves to a set of multiple curves with different shapes that reflect different implicit costs.

Preliminary Disposition

- Accepted for further analysis.

Final Disposition

- Industry does not agree with having Allowable Costs become sensitive to prices and well productivity, as is the case with the Crown royalty rate. Costs do not track prices and they are not necessarily proportional to production increases or declines. Crown supports this position.

Features

- Could apply to wellhead or plant gate.
- No explicit deduction for any cost.
- Similar to current system in having different formulas.

Related Issues and /or Prerequisites

- Production curve is not necessarily a good shape for processing costs as processing costs are not directly a function of individual well productivity

Pro's

- Some simplicity is achieved.
- Has sensitivity to revenues and costs and changes share accordingly with price and possibly production. A decision on liquid productivity is needed.
- Provides an incentive for efficiency.
- Recognizes differential costs for categories of production.

Con's

- Relative costs could get out of date.
- Does not recognize differential costs within categories.
- Distributional impact through averaging. Cost/gain to Crown due to dropping liquid values and costs and readjusting curves for differences.
- Model has high maintenance implications.

21. Introduce third tier of Crown gas royalty with only implicit cost recognition

Description

Maintain current system for a certain amount of time on existing production. Introduce new lower third tier on gas with no explicit cost recognition on production from land sold by the Crown after January 1, 1999 (date is an example only).

Preliminary Disposition

Retain for further analysis.

Final Disposition

Parked – no further analysis.

- Transition time frame is excessive.

Features

- Based on either wellhead or plant gate.
- No explicit deduction for any cost.
- Temporarily treated like out of province or freehold volumes.
- Rollover of existing gas after three years to allow time for industry to acclimate.

Related Issues and /or Prerequisites

- Could be added to other alternatives such as rates or percentage reductions as interim steps to the third tier.
- Could include maintaining simplified *New and Old*, or termination of New and Old vintages.
- If no liquid value recognition, liquid extraction costs beyond basic gas conditioning should be removed.
- A question has been raised as to whether the transition plan for this proposal is likely to be limited to a 3 to 5 year time frame?

Pro's

- Very simple in longer run.
- Has provincial level sensitivity to revenues and well sensitivity to costs, and changes are shared accordingly.
- No distributional impact regarding third tier gas as bonus bid on new land accounts for major impacts.
- Tie to bonus bids allows matching of overall expectations of revenues and costs of new wells and other projects.
- Treatment as freehold or out of province minimizes new administration.
- Adjusts to new technology and changes in processing arrangements through bonus bid on new land after changes or through a higher risk premium on bonus bid on new land prior to changes.

Con's

- Could be a disincentive to new extremely high cost high productivity projects, i.e., drives bonus bid down to 0.
- Initial administration increase caused by need to code in a third category.
- A long transition would be required before any administrative benefits would be realized
- Some distributional impact initially as a result of affecting CERRs.

22. Pay Crown royalty on residual gas and natural gas liquid mix via S-1

Description

Royalty trigger is at well event level on S-1. Sales and production are shown on report for sales gas and combined natural gas liquids. Ownership is maintained in a central registry that is submitted by industry on a monthly basis.

Preliminary Disposition

Accepted for analysis (Oct. 14 – SEPAC I/P) as part of a larger solution.

Final Disposition

Parked – no further analysis.

- Gains realized can be achieved by revisions to the plant gate mechanism, which industry is already using to conduct business.

Features

- Royalties could be triggered by either production or sales volume on the S-1.

Related Issues and /or Prerequisites

- Depending on decision if sales or production, attention needs to be paid to the issue of fuel, flare and metering differences.

Pro's

- Government could issue invoice based on volumes (production or sales) reported.
- Methodology recognizes certain of the uplift value of specification product.
- Builds on the use of existing reference price mechanisms.
- Works equally as well for freehold mineral rights tax.
- Allows for current period certainty in terms of allocations and Crown charges.
- Fits well with the concept of a centralized data registry and central processing.
- Easier for industry to check joint venture billing volumes to S-1 sales volumes. A verification procedure must be done by industry currently; this requires different but existing reports to be used.
- Less administration by both industry and government as royalty is deliverable at the wellhead. There should also be fewer errors for industry than is the case with the current processing of OAS reporting.

Con's

- All reports must be modified or eliminated to provide the necessary reporting.
- Supporting computer system changes are major for all concerned.
- Ownership registry needs to be kept up to date by industry or government on a monthly basis.
- More difficult for Crown to lift specific specification production at any particular site.

23. Rescind holiday programs, remove special cases and adjust royalty rates to compensate

Description

Currently special case processing creates many anomalies, which must be handled by both industry and Ministry computer processing applications. Many computer applications serving industry, both proprietary or service-focused, are not currently positioned to handle such processing. It is costly within the Department of Energy to maintain application code for special cases and it is costly to develop further software. An option is to adjust the royalty curve to compensate for elimination of the various special cases and royalty holidays rather than handle these in the current manner in this or a new environment.

Preliminary Disposition

Parked - no further analysis.

- Not valid as a stand-alone option
- May be considered as a component of a larger solution where distributional impacts need to be addressed.

Features

Related Issues and /or Prerequisites

- Related to the *adjust royalty curve* alternatives.
- May become part of a larger solution or alternative if royalty distribution becomes a major issue.

Pro's

- Enables existing software and processes to be simplified, resulting in maintenance, upgrade and processing cost savings.
- Reduces the administrative efforts required to handle queries.
- Eliminates the need for service providers to provide this functionality to their clients.

Con's

- Eliminates a tool used frequently to spur specific industry activity.
- Distributional impacts result.
- Negative impact on eastern slopes deep drilling activity.

24. Special treatment of mature properties

Description

Implement special royalty treatment for production from properties defined as mature (definition to be agreed upon) to recognize potential incremental costs associated with production from these properties.

Preliminary Disposition

Parked - no further analysis.

- The individual who introduced this suggestion noted that it has limited opportunities for application in gas (larger potential for oil).

Features

- Potentially applicable to all gas production.
- Potential to reduce non-royalty requirements such as testing frequency, reporting, etc.

Related Issues and/or Prerequisites

- Solution #23: Remove holiday and special cases and adjust royalty rates to compensate - if agreement is reached to remove holidays, etc. there is little justification for pursuing another type of special handling arrangement.
- The real issue in this situation is the total Crown burden on such properties. While Crown royalties are production and price sensitive municipal tax models have limitations on depreciation, etc., and do not recognize significantly reduced economic value of pump jacks, pipelines, etc.

Pro's

- Potential for properties to remain economic for an extended period of time; Existing allowable cost methodology probably provides adequate compensation.
- Possible reduction of non-royalty-related field costs.

Con's

- Creates an additional set of special cases that increase administration for both industry and the government. Significant impact on government processes and computer systems.

25. Merge freehold mineral rights tax (FMRT) with royalty process

Description

Cost and valuation data used for Crown royalty calculations are also used in calculations of freehold mineral rights tax.

Preliminary Disposition

Accepted for further consideration.

- Proposal has a great deal of appeal and is accepted for further consideration.
- Note: SEPAC is concerned with the potential administrative efforts. A fax of concerns will be forwarded by two companies that have been consulted throughout the exercise.

Final Disposition

Forms part of the recommendation.

- Freehold mineral rights tax program delivery to be within Crown royalty business process.

Features

- Process could be used for all facilities where both Crown and freehold gas is gathered, compressed, processed and/or sold.
- FMRT could be invoiced monthly to the working interest owner.

Related Issues and/or Prerequisites

- Consideration needs to be given to petroleum.
- Increases the stakeholders to these discussions exponentially. There are approximately 23,000 instances of ownership for 13,000 producing freehold titles.
- Resolution of the production vs. ownership tax debates. Significant implication under federal taxation legislation.

Pro's

- Reduces audit requirement.
- Removes need for filing unit values.
- Removes need to prepare amendments and appeals of mis-filings to this annual levy-based process.
- Improves timeliness and certainty of FMRT assessments.
- Allows industry to dispense with all Crown charges on natural gas simultaneously.

Con's

- May require that the working interest owner become agent for lessor.
- Values and costs may not be aligned closely enough to be the basis for freehold royalty.
- Rights to appeal may be compromised.

26. Shared information registries in an electronic media at well, owner and transaction levels

Description

“To cut government/industry costs surrounding conventional oil and gas royalties, we will create a common central database that registers production royalty and accounting information...”

Dr. Steve West, Minister of Energy (June 2, 1997)

A data registry is defined as the primary source of information used by organization(s) in conducting business processes. It could be considered as the *master* copy of data for a set of business processes. Once in place, it is the *official record* and *primary source* of information. A data registry includes all data required for the Ministry and industry to do business and a shared data registry must be used by all.

The data registry provides the following functionality at a high level:

- Receives previously validated information from the customer.
- Edits the information to ensure quality.
- Stores the information ready for use.
- Provides access to the information for qualified customers.

The proposed scope is:

- The focus is mainly gas volumetric information, and more specifically, production royalty and accounting information. Since oil, gas and water are normally produced concurrently, it makes sense to also deal with other products at the wellhead.
- Current reporting forms for EUB volumetric information contain oil, gas and water.
- Consists of foundation or infrastructure data or common data such as well ids, or battery and facility codes.
- Must be built and delivered using a phased implementation approach to minimize reworks, and maximize success.

Preliminary Disposition

Accepted for further analysis pending the identification of potential alternatives.

- This could be done even if there were no changes to the royalty regime.
- (Oct. 14 – SEPAC I/P) Could be integrated into existing data carried already by the Department of Energy and EUB. Approved or agreed upon partner or defaults to operator.

Final Disposition

Forms part of the recommendation.

- Develop a shared information registry that is a warehouse of Alberta petroleum and natural gas information used by industry, government and the public.

Features

For the purpose of this analysis, the assumptions are:

- Requires a single solution employing a central data storehouse.
- No assumptions have been made regarding whether there are one or many physical or logical registries. Use of the singular or plural form of the term *registry* in this document is not intended to constrain the technical architecture.
- The registry manages volumetric and related information from the wellhead to the plant gate and onwards to the mainline straddle plant.

Variations

A data registry could be used as described above. Variations to this include:

- A data registry used solely within the Ministry.
- A data registry containing foundation data (or infrastructure data) that is used by both industry and the Ministry.

Related Issues and/or Prerequisites

- A logical data registry does not presume to map to one physical data structure; it could be made of many physical databases all joined through logical relationships.
- Development and ownership/custodianship.
- Security and confidentiality of information.
- Standards require enforcement.
- Impact on third party service providers; a significant change in Ministry policy will have a significant impact on third parties.
- Scope of the data collected needs to be defined.
- Level of detail required is dependent on the new business rules.
- Retention of historical data.
- Information sales.
- Determination of create, update and delete authority.
- Determination of access by whom, and who is the authority in this.
- Push or pull information required by Ministry.
- Communication to and from Ministry.
- Audit trails.
- Process to change standards once they have been established.
- Registry and rules must be sustainable over time.
- Change management processes.
- Data storage methods in the repository, e.g., EDI.
- Variable reporting frequencies.
- Real time access method.
- Scalable to incorporate other business processes in the future.
- Standardize terminology.

Pro's

There are significant benefits associated with the concept. The environment is founded on simplification of policy and process, streamlining of activities and accessibility of information—an environment that provides quality of service to all stakeholders. It provides the Ministry and industry with the capability to share information that is secure, correct, complete and consistent. Electronic media is used to receive, process, store, and disseminate information and, wherever possible, editing and validation of information is done at the source. The environment provides a single point of capture and access for information related to the business processes.

The following list is incomplete, but provides some idea of the magnitude and variety of benefits that could be realized.

- Less paper and more timely receipt and dissemination of information.
- Consolidated and streamlined information and information flows.
- An environment where industry only has to submit their information once to the Ministry.
- A reduction in Ministry overhead associated with managing this type of information. Labour intensive activities such as entering, validating, amending and reconciling data, microfilming, copying and mailing could be reduced or eliminated.
- Less duplication in business processes and in the total number of registries containing the same or similar information in the Department of Energy, EUB and industry.
- Sharing of key registry information with key stakeholders.
- Potential for automated distribution of Crown and partner information.
- Decreased manual intervention resulting from amendments.
- Increased accuracy of information.
- Information that is accessible in a more timely manner.
- Inquiry capability for use by the Ministry, industry, other Ministries, other jurisdictions, and the public.
- Reduced cycle time for financial transactions, especially in the elapsed time from production to receipt of royalty or tax by Treasury.
- Environment that could grow to cover other common information needs when and where appropriate.

Con's

There are significant risks in establishing a shared data registry.

- If more data types are captured in the data registry, there is increased usage for the registry and the costs increase. On the other hand, if fewer data types are captured, the usage is decreased and costs also decrease.
- Economic considerations:
 - Capital investment for all current applications for both the Ministry and industry.
 - Capital investment for setting up the common registry.
 - Who pays and what proportions.
 - Is it only administrative costs related to conventional oil and gas royalties, or does it include the total information processing costs?

27. Operator remits Crown royalty when Operator is acting as agent for the working interest owner

Description

The operator of a well or a facility is responsible for remittance of Crown royalties for working interest owners who do not have their own marketing arrangements. Take-in-kind owners are responsible for their own royalty remittances.

Preliminary Disposition

Accepted for further analysis.

Final Disposition

Remains an option for industry.

- While this is not a part of the recommendation, industry has this option. The Facility Effective Rate, which is part of the recommendation, makes this approach more logical.

Features

- A variation of this is for the owner of the well or facility to pay royalties on behalf of all working interest owners (see solution #4).

Related Issues and/or Prerequisites

Pro's

- Makes Crow's client list considerably shorter; some reduction in administration;
- Could eliminate the amount of information required on ownership registry.
- Less impact on collection for industry as they are dealing with small dollars and volumes as opposed to operator paying on behalf of all working interest owners.

Con's

- Take-in-kind volumes must be reported to the Crown by the operator so the Crown can invoice those particular working interest owners.
- Ownership information must be maintained by industry to show owners who are not paying their own royalties. The timing of updates is critical.
- Operator may experience difficulty in keeping current with the property purchases and sales where obligations to pay change with ownership.

Note: A centralized well ownership registry eliminates the last two.

28. Crown waives *nuisance* royalty assessments by well-event

Description

To eliminate situations where the associated administration far outweighs the relative value of the royalty share, the Crown waives the Crown royalty otherwise assessed. A suggestion has been made that Crown royalty start at 50.1 mcf per day per well event, which roughly translates to 1.37 thousand cubic meters per day per well event.

Preliminary Disposition

Parked - no further analysis.

- Has minimal merit in itself, although it may be part of the final solution.

Features

- Eliminates some Crown royalty-driven administration, although S-1's are required.
- Appears to support the desired maximum recovery objective.
- Appears to solidify market niche for stripper operations.
- Rather than small royalty payers being exempt, small royalty sources are eliminated.
- Low productivity allowance is phased into current 16.9 thousand cubic meters/day.

Related Issues and/or Prerequisites

- S-1's are required to ensure wells are making less than hurdle.
- Is there any relationship to the potential outcome of this and the EUB practice of not releasing *majors* from well/facility abandonment responsibility?
- Are there implications for marginal properties and mature properties relative to this review?

Pro's

- Potentially less administration for industry.
- May in unique circumstances eliminate a royalty payer and thus an invoice.
- May increase the over-all productivity of a well event.

Con's

- System changes required for OAS and royalty formulae.
- Does not ensure a reduction in the number of royalty payers.
- May reduce Crown revenues while not reducing administration and costs.

28aa. Crown waives *nuisance* royalty assessments below specific monthly or annual dollar hurdle rates

Description

To eliminate situations where the associated administration and out of budget costs outweigh the dollar value of the Crown royalty share, the Crown should *waive* the Crown royalty otherwise assessed. A suggestion has been made that Crown royalty (natural gas and natural gas by-products) of less than \$100/month or \$1000 per year be waived.

Preliminary Disposition

Retained for further analysis.

- Given the issues, this proposal has minimal merit in itself, although it or something like it may be part of the final solution IF proper rules and legislation are implemented.

Final Disposition

This alternative forms part of the recommendation.

Features

- Eliminates some royalty payers and the accompanying Crown royalty invoices.
- Reduces administration and actual operating costs.
- S-1's and OAS required for all well events and all volumes.
- Appears to support the desired maximum recovery objective.
- Appears to solidify market niche for stripper operations.
- Small royalty payers are exempted from payment. What are the ARTC implications?
- Low productivity allowance is phased into the current 16.9 thousand cubic meters/day. This requires work in reconciling appropriateness of the \$100 to the 16.9 hurdle.

Related Issues and/or Prerequisites

- S-1's and OAS required to do initial assessment.
- Treasury endorsement and legislative changes.
- Is there any relationship to the potential outcome of this and the EUB practice of not releasing *majors* from well/facility abandonment responsibility?
- Are there implications for marginal properties or mature properties relative to this review?
- Business rules around ownership splitting to get below hurdle.
- Business rules around ARTC benefits and program delivery.

Pro's

- Less administration and cost for Department of Energy (fewer invoices). Extent is unknown.
- May increase the over-all productivity of a well event.

Con's

- Mineral Revenue Information System (MRIS) changes required to suppress invoices and to roll-up for annual minimums.

-
- Must continue with *management* of the produced volumes.
 - Increases the need for invoicing certainty—*he who once was exempt from payment of royalty may become liable for royalty and the interest implications associated (and visa versa)*—new type of re-work.
 - Increased motivation to get below the hurdles via product allocations and/or company splitting – proliferation of the population.
 - Reduces Crown revenues while not necessarily reducing administration and postage/paper/collections costs by a like amount.
 - Legislation is a hard sell in all respects; not consistent with public perception that beneficiaries of the exploitation of public assets should pay accordingly.
 - Identification of the absolutely correct hurdle rate is extremely difficult.

29. Remove different treatments of field pentanes and plant pentanes

Description

Pentanes have an oil royalty rate if collected in the field like oil (field pentanes). If the pentanes are recovered after processing a natural gas stream, the Crown royalty rate is higher; however, GCA is deducted to establish net royalty.

In this alternative pentanes are assessed at a lower royalty rate (equivalent to oil) and potentially lifted in-kind as is the case with oil.

Preliminary Disposition

Accepted for further analysis.

Final Disposition

Parked for future consideration.

- This is a minor adjustment that can be made when the recommended changes are implemented.

Features

- The lower royalty rate is considered to offset GCA.
- Alternatively, a fixed rate for cost could be provided.

Related Issues and/or Prerequisites

- Field pentanes (oil) are subject to a production sensitive royalty, gas plant pentanes are not. The alternatives for establishing a new single royalty rate need to consider one or more of :
 - Actual pentane productivity.
 - Liquid equivalent productivity of well or oil rate.
 - Gas well rate reduction.

Pro's

- Similar royalty rate for identical specification product.
- Same treatment for field and plant produced pentanes.
- Removes motivation for industry to try and fit into one category or other.
- Crown lifting in-kind removes necessity of pentanes price.
- Eliminates a number of complexities.

Con's

- Oil rate is production sensitive, so what rate is used?
- Final royalty rate may not be equivalent if costs are not appropriately allocated.
- May be distribution from price and productivity levels.
- May necessitate the introduction of new processes to limit gathering and processing costs, to claw back capital, etc.

30. Royalty percentage based on average well production rate per pool

Description

Royalties are calculated on the average well production rate in a pool.

Preliminary Disposition

Accepted for further analysis.

- Note: Two separate SEPAC representative groups strongly recommend that this particular item be parked.

Final Disposition

Parked – no further analysis.

- Measurement issue – cannot accurately measure volume or heat content.

Features

Related Issues and/or Prerequisites

- This solution is a variant of solution # 8.

Pro's

- Is one way to estimate production volumes by well to attribute ownership for royalty purposes.
- Eliminates costly measurement equipment at low productivity wellheads.
- Marginally reduces operating costs.

Con's

- Eliminates precise determination of well production volumetrics.
- Eliminates all necessary ownership type data required for product allocations, revenue splits, and royalty determination as well data required for well economics is more difficult to obtain.
- Estimated 30,000 pools in Alberta (H. Halliday EUB); many are single well. What gains result?
- Anticipate profound impacts on business processes.

31. Paydown/TopUp to average capital rate

Description

This is a transitional mechanism to move from the current system to a postage stamp rate or rates for capital. The difference between actual capital on a unit basis today and the unit capital rate is calculated and facilities are moved either up or down gradually from the current to the average rate over 5 years.

Preliminary Disposition

Potentially viable as a transition mechanism.

Final Disposition

Parked – no further analysis.

- Insufficient mitigating strategy. Feasible only if adjust capital at a facility - both winners and losers benefit by this.

Features

- Initial calculation and schedule.
- No inclusion of new capital not already announced.
- Inclusion of changes of capital between companies on in and out basis.
- Inclusion of shut-ins and facilities reaching full depreciation.

Related Issues and/or Prerequisites

- Transitional used in tandem with solution #1: Unit capital rates.

Pro's

- Reduces impact of postage stamp capital rates.
- Allows time to make appropriate changes in business.

Con's

- Requires 5 years of administration.
- Requires rules for transfer of capital and reporting of shut-ins.
- End of remaining useful life could have some complexity if additional capital is added.

32. Saskatchewan Crown gas royalty model

Description

Adopt a more simplified royalty regime similar to the one that the Saskatchewan Department of Energy and Mines administers on production from wells in Saskatchewan.

Saskatchewan Regime

The Saskatchewan Crown royalty share varies based on:

- Gross monthly production volume from a well.
- Price sensitive royalty rate established each month by the Department of Energy and Mines.
- Vintage of the well (applies strictly to cost recognition).
- Land/mineral ownership of the well.
- Saskatchewan Resource Credit (1%).

Only non-associated gas attracts royalties. Associated gas and any resulting by-products do not attract any Crown royalty. No cost recognition exists in those cases where the gas stream is liquids rich.

Gas Valuation

Producers have a one time election of choosing to pay on a provincial gas price, (PGP) or on the operator gas price, (OGP), which is similar to the Alberta reference price and CAP respectively.

Allowable costs are based on the vintage of the wells and are pre-defined by the Department of Energy and Mines to be \$5.00 for Old gas and \$10.00 for New gas. This is irrespective of the nature of the raw gas stream.

The basic royalty rate is adjusted to reflect the land/mineral ownership of a well. There are three types of royalties that are paid: Crown, Crown acquired, and freehold production tax. The royalty/tax rate payable on gas produced from Crown acquired and freehold wells is reduced by:

- the lease rate on Crown acquired wells and
- either 10% or 6.9% on freehold wells depending upon whether they are New or Old, respectively.

Royalties are paid monthly by industry for the current month and then adjusted by the Department of Energy and Mines if changes occur (usually in production). The Department of Energy and Mines invoices for the current month, but this is after the deadline for payment for that month. Industry pays on the calculation that they have made in their own shop and then book adjustments when received.

The operator usually pays on behalf of working interest owners and then collects through joint venture billing. The only time the royalty is paid by a working interest owner is if they take their product in-kind. There are a number of different reports that are submitted to make changes to the ownership in a well (TIK etc.); however, these are only submitted when changes occur.

Preliminary Disposition

Parked - no further analysis.

-
- Requires substantial changes for Alberta because it does not meet all of Alberta's business requirements; the industry here is more complex because of the high liquids, sulphur and solution gas production.
 - Rejected as a total solution, but pieces may be picked up as part of the larger solution or continuous improvement items.

Features

- Royalty base does not include by-products generated by processing the natural gas.

Related Issues and/or Prerequisites

Pro's

- Simple regime for small royalty base.

Con's

- Difficult to transfer as most operators do not own plants or sell liquids from their wells.
- Trans Gas (in some instances) acts as a processor (own compression facilities) similar to the role Westcoast plays in BC
- Royalty regime not set up to handle sour, sweet, solution gas, liquids, processing fees, capital in GCA, sulphur removal or recovery, and does not provide an incentive to produce low productivity wells. Works well in Saskatchewan for the oil and limited gas production in that province.
- (Oct. 14 – SEPAC I/P) Large initial and ongoing distributional issue associated with this.

33. BC Crown royalty model

Description

BC Crown gas royalties are calculated and paid to British Columbia Investment and Employment as an estimate on the 25th day of the second month following production and trued up on the 25th day of the third month following production. On this third month following production, a BC 14 (Gas Royalty Form) is submitted.

BC works on a REN (Reporting Entity Number) level entity ownership that is completed by industry when a well or a group of wells go on commercial production. This BC 12 form registers a well or group of wells so the Crown can track payment of Crown royalties. Any monthly ownership changes or additions of wells, etc., must be reported on this form.

The royalty measurement point is at the plant outlet. Royalty rates are acquisition order price sensitive in such a way that it is plant and company specific. (Effective November 1997 the minimum royalty rate for residue gas is 15% and conservation gas (solution gas) is 8%. There is a monthly PMP (posted minimum price) given to all producers. This is calculated as 80% of the province's forecasted average residue gas price. The PMP is the minimum price gas sales are booked at for Crown royalty purposes. Propane, butane and condensate are on a flat 20% royalty rate, while sulphur is a flat royalty rate of 16.667%. There are no minimum prices on the liquids or sulphur.

PCOS (producer cost of service) and GCA (gas cost allowance), if applicable, are deducted from the gross royalty dollars to arrive at net royalty dollars payable. GCA does not have a substantial impact as Westcoast plants (1/3 of gas plants located in BC) produce 70% of the gas in the province.

PCOS are evaluated and updated every 18 months by the government and become the plant basic posted rate times the raw gas volumes for the month in question times the gross royalty rate. GCA is based on the Jumping Pound formula using a 12.5% rate of return and 5% depreciation on a declining balance. If there are any miscible gas floods, the royalty is waived until blowdown; however, it has to be set up as a special royalty agreement and administered by the producer for the Crown. Gas storage agreements are royalty paid and are also set up as a royalty agreement and administered by the producer.

Preliminary Disposition

Parked - no further analysis.

- This regime somewhat resembles the pre-1994 Alberta royalty regime that was difficult to administer and audit-dependent.

Features

Related Issues and/or Prerequisites

- Freehold mineral tax is calculated on monthly basis. BC uses the same calculation as the Crown calculation but at 70%. This might be workable in Alberta with a lower percentage. Note: BC takes in \$100,000 per month in mineral tax.

Pro's

Con's

- Administratively intensive with high percentages of manual effort; however, due to the much smaller royalty base it can be made to work.
- Difficult to use in Alberta since Alberta has exponentially more gathering lines, compressors and processing facilities. As 70% of the gas is produced through Westcoast, the BC government relies on and has a direct line to Westcoast information.
- Producer-owned plants are not monitored as consistently. Given the wide ownership base in Alberta this limits the potential of this solution.

34A. Gross wellhead royalty based on heat content x price and reduced by gas cost allowance

Description

Gross royalty is based on production volumes, heat content of the raw gas, a Crown royalty rate set to account for various costs, low productivity factors, and operating conditions at the wellhead (H₂S, fuel, flaring, etc.). Gross royalty is then reduced by the gas cost allowance.

Preliminary Disposition

Parked - no further analysis.

- Solution is less viable than solution 34B.

Features

The basic formula is:

$$\text{Net Crown Royalty} = \text{Gross Crown Royalty} \text{ minus } \text{Gas Cost Allowance}$$

Gross Crown Royalty = wellhead production x heat content x Crown rate x price
Gas Cost Allowance = postage stamp for each or both of capital and operating costs

Includes:

- Wellhead production determined from S-1 (or equivalent) document; possibly build in a standard lease fuel deduction for wellhead lease fuel.
- Heat content (GJ's) information taken from an actual annual gas analysis, historical attributes, pool analysis etc. For solution gas wells in a battery, a battery analysis could be deemed to apply to all wells within the battery. Conceptually, a higher content of liquids results in a higher heat content, so there is no need to adjust for gas by-products.
- Crown rate is a variable percentage that will account for each of:
 - Losses and consumption at facilities (fuel/flare).
 - Operating and capital costs of facilities (not specified as to how this information is acquired and updated); a suggestion is that high H₂S content wells be given an extra allowance for costs associated with sour gas.
 - Sliding scale component to recognize and remove low productivity considerations.
- Price that takes into account a reduction for processing/trucking (similar to unit operating cost rates), and possible additional tiered reductions for sour gas wells based on H₂S content.
- Gas cost allowance based on the current methods of postage stamping the operating component.

Related Issues and/or Prerequisites

- Similar to current process of assessing royalty on raw gas sales.
- Comprehensive volume reporting document at the wellhead. Possibly enhance the OAS with production data and make it a royalty document.
- Gas analysis information for all wells or batteries on an annual or more frequent basis.
- Is the elimination of well groups possible?

Pro's

- Reduction of data requirements and administrative effort for both industry and government.
- Probably fewer amendments.
- Simplification of corporate estimates.
- No new reports or data required from current industry production accounting systems.

Con's

- Crown is still in the gas cost allowance business.
- Dealing with EOR schemes and reproduced *royalty paid* volumes.
- Acquiring, validating, maintaining, and storing the heat content data.
- Price vs. value needs to be resolved.
- No market exists for raw gas; difficult to establish value or price.

34B. Net wellhead royalty based on heat content and price (no gas cost allowance)

Description

Royalty is based on production, deemed heat content of raw gas, a Crown rate to account for various costs, low productivity factors, and operating conditions at the wellhead (H₂S, fuel, flaring, etc.).

Preliminary Disposition

Accepted for further analysis

Final Disposition

Parked – no further analysis.

- Measurement, both volume and heat, and costs are price and productivity sensitive.

Features

The basic formula is:

$$\text{Crown Royalty} = \text{wellhead production} \times \text{heat content} \times \text{royalty rate} \times \text{value}$$

Includes:

- Wellhead production determined from S-1 (or equivalent) document; possibly build in a standard lease fuel deduction for wellhead lease fuel.
- Deemed heat content (GJ's) information taken from an actual annual gas analysis. For solution gas wells in a battery, a battery analysis could be deemed to apply to all wells within the battery. Conceptually, a higher content of liquids results in a higher heat content, so there is no need to adjust for gas by-products.
- Crown rate is a variable percentage that accounts for:
 - Losses and consumption at facilities (fuel/flare).
 - Suggestion is that high H₂S content wells be given an extra allowance for costs associated with sour gas.
 - Sliding scale component to recognize and remove low productivity considerations.
- Value takes into account a reduction for processing/trucking (like unit operating cost rates), and possible additional tiered reductions for sour gas wells based on H₂S content.

(Oct. 14 – SEPAC I/P) New wells could be attributed *heat content* by regional default until actual heat content is determined. Question retroactive adjustments?

Excludes:

- Similar to the wellhead royalty (solution #34A) except that GCA is not required.

Related Issues and/or Prerequisites

- Similar to current process of assessing royalty on raw gas sales.
- Comprehensive volume reporting document at the wellhead. Possibly enhance the OAS with production data and make it a royalty document.

-
- Gas analysis information for all wells or batteries on an annual or more frequent basis.
 - Is the elimination of well groups possible?

Pro's

- Crown is out of the gas cost allowance business.
- No need for vintage information.
- Reduction of data requirements and administrative effort for both industry and government.
- Probably fewer amendments.
- Simplification of corporate estimates.
- No new reports or data required from current industry production accounting systems.

Con's

- Dealing with EOR schemes and reproduced *royalty paid* volumes.
- Acquiring, validating, maintaining and storing the heat content data.
- Elimination of vintage causes distributional issues.
- Concept of price vs. value needs to be resolved.
- No market exists for raw gas; price/value may be difficult to establish.

35. Crown royalty share of products taken in-kind

Description

Crown volumes of product (or various products) are taken in-kind similarly to the current handling of Crown oil royalty. As there is no dependency, allowable costs remain the same as today or may be modified or eliminated depending on opportunities.

Preliminary Disposition

Accepted for further analysis.

Final Disposition

The Crown retains the right to this.

- This is in line with the non-negotiables, and the option and opportunity remain.

Features

- Independent of allowable cost (GCA) solution as long as product volumes remain part of final royalty regime.

Related Issues and/or Prerequisites

- May need tracking systems and agents or a dedicated Department of energy operation implemented to handle movement and marketing of segregated product(s).
- Royalty formulae necessarily use the Crown's weighted average net backs or something akin to the reference prices as par price.
- May require new contract arrangements (re. production excess/shortfall, etc.) similar to what exists for oil.
- May need storage arrangements – field and other.

Pro's

- May remove the need for some or all reference prices.
- Eliminates many of the issues surrounding fair pricing.
- Can be partially or totally implemented.
- Solidifies legal concepts of royalty as an ownership share of production.

Con's

- May make current allowable cost rules unacceptable since the Crown becomes a competitor in marketing.
- Crown may tie into premium or spot only markets, i.e., gain/loss from average.
- Crown prices used in par price may not be equivalent to industry weighted average.
- Adds volume and may add complexity to operator's monthly splits.
- Implementation requires some recognition of sales gas contracts with dedicated reserves and other currently dedicated sales.

36. Flat royalty rate on first 80% of pool production

Description

Levy a flat royalty on production of the initial 80% of in place reserves. The final 20% is then produced without any Crown royalty burden, thus ensuring maximum recovery of in place reserves.

Preliminary Disposition

Parked - no further analysis.

Features

- Based on industry supplied and EUB validated reserves data.

Related Issues and/or Prerequisites

- Works with existing system or with any of the proposed wellhead regimes whether they are raw gas/heat driven or allocated segregated product based.

Pro's

- Flat rate makes for universal treatment of similar production.

Con's

- Not price and productivity sensitive.
- Transition rules are extremely complex given the variety of circumstances to be addressed, i.e., old/new, wet/dry, large capital pools, and fully depreciated assets.
- Does not address in place reserves differences, i.e., dry/sweet vs. wet/sour.
- Quality of reserves data is questionable today; it is not seen as totally reliable. Possibly a new impetus will emerge to make it even less accurate if the royalty burden is determined based on such information.
- Rules and compliance penalties to enforce intent are necessarily complex and subject to ongoing challenge and suggested exceptions.

37. Use existing EUB pool level gas analysis to establish heat content of raw gas production

Description

The EUB identifies gas analysis either through validated industry submissions of gas analysis, attributing field average gas analysis results or attributing the Potter-Liddle identified energy attributes. There are currently 30,000 gas producing pools in Alberta. It is estimated by Harvey Halliday at the EUB that it will take some work to get up to snuff and it will take compliance rules to enforce the ongoing maintenance.

Preliminary Disposition

This is a viable alternative.

- Based on discussions with Harvey Halliday at the EUB it has been determined that this is a viable alternative for determining the heat content of any specific raw gas production.

Final Disposition

Parked – no further analysis.

- Affected by measurement inaccuracies.
- Difficulties with cycling schemes and solution gas.

Features

- Based on industry supplied and EUB validated data.
- Ownership of process is now resident in EUB and it is an ongoing requirement.

Related Issues and/or Prerequisites

- Presumes a wellhead royalty using something akin to the S-1 to report wellhead effluent.
- Requires that raw gas be valued based on GJ's rather than specification products.
- Requires revised royalty curves to address allowable costs, liquids content, vintage, low productivity etc.
- Assumes elimination of GCA , both capital and operating.
- New wells are given actual energy attributes based on valid test; given the field average or temporarily assigned the Potter-Liddle attributes pending actuals being determined.

Pro's

- Uses an existing system that, itself, has reasons for continuation.
- Recognizes on a pool basis the inherent value of liquids rich gas.
- Facilitates royalty determination at the wellhead, thus reducing government involvement.
- Allows royalty determination certainty.
- Facilitates having the operator responsible for those working interest owners not lifting in-kind.
- Builds on use of existing reference price mechanisms.
- Works equally as well for freehold property.
- Resolution of disputes, if any, upgrades the quality of the pool level gas analysis currently held by EUB and thus improves the reliability of the data. This data is purchased and used by various industry players.

-
- Strongly supports the concept of a central data registry.

Con's

- Heat content determination is not exactly attributable to each well in the pool.
- Requires technical staff (field and geology) to audit and update effluent characteristics.
- Recognizes increased value of liquids but not the associated uplift of specification product.
- 30,000 pools today; require effort to get data in shape and require compliance mechanisms to ensure data integrity is maintained.

38. Retain existing system but replace the OAS with a simpler dedicated royalty document

Description

The OAS contains industry-to-industry reporting requirements and complexity for tracking industry transactions that are unnecessary for Crown royalty reporting. A simpler document could be developed that is more understandable, less prone to error and requires less work.

Preliminary Disposition

Accepted for further consideration.

Final Disposition

Forms part of the recommendation.

- The OAS is being streamlined to become a Crown royalty document.

Features

- Only reports for Crown royalty purposes.
- Potentially simplified triggers and removal of some special cases.

Related Issues and/or Prerequisites

Pro's

- Reduces administration in industry.

Con's

- Removes ability of companies to use OAS for partner reporting.
- Involves another government driven form.
- Eliminates an opportunity to see industry positioned to take advantage of standardization.
- New reconciliation mechanisms are required to be developed by the Crown and by service providers.

39. Retain existing system but revise custom processing with reallocated capital

Description

Reduce custom processing administration by allocating the portion of capital used for custom processing as if the custom processing user were the owner.

Preliminary Disposition

Accepted for further analysis.

Final Disposition

Forms part of the recommended regime.

- To be implemented via custom processing by gas type.

Features

- Include average profit component for province or by region.
- Otherwise calculate as if facility owner for that share of volume.

Related Issues and/or Prerequisites

Pro's

- Reduces administration in industry – only need to know custom processing volumes and owner each month.
- Could remove annual custom processing reporting requirements.

Con's

- May be limited by need for rules for excess capacity and use of only part of a particular facility.
- Does not match actual custom processing fees paid.
- May result in additional royalty for some custom users.

40. Retain existing system but replace S forms with simplified forms

Description

Reduce the number of data elements on the S forms and reduce the number of forms.

Preliminary Disposition

Accepted for further analysis.

Final Disposition

Forms part of the recommendation.

- Closely related to solution 38, which covers streamlining of the OAS. These changes encompass the S-8, S-20 and S-21; the S-1, S-2 and S-18 remain as they are today.

Features

- Based on an analysis of the need for each data element.

Related Issues and/or Prerequisites

- Timing of the filing of the various reports is a major issue, as is the debate over the recently announced/introduced compliance penalties. It is essential that filing deadlines be driven by business processes.
- Potential exists to use data that was gathered/developed for the Facility Activity Statement (FAS).

Pro's

- Reduces administration for both industry and the Crown through collection of less data/information.

Con's

- Benefit may be limited by need for information for geologists and engineers to explore and develop reservoirs and for EUB in ensuring conservation.
- May result in significantly greater cost if producers have to set up their own production tracking systems for engineering purposes.

41. Crown royalty levied at gas processing plant inlet

Description

Crown royalty is determined based on measured volumes of raw gas immediately upstream of the gas plant. Royalty ownership, vintage, and working interest ownership features resemble those used today. Operating and capital cost reflect the new point of royalty realization.

Preliminary Disposition

Parked - no further analysis.

Features

- Heat content/energy based assessment methodology.

Related Issues and/or Prerequisites

- Volumetric inaccuracies and tracking.
- Value of the liquids contained in the raw stream.

Pro's

- May fit well with the concept of the operator being deemed responsible for payment of Crown royalty at the facility (solution #4 Parked).
- Delivery of allowable costs may be less time consuming.

Con's

- Has no logical fit to any industry business activity or process.
- Requires the installation of measuring equipment for no purpose other than Crown royalty.
- Attribution of vintage, Crown and working interest ownership, low productivity are difficult to deliver.
- No natural tie to source well (see previous bullet) may represent problems with liability.
- Raises all the issues associated with a raw gas wellhead royalty regime with few, if any, of the benefits such a regime enjoys.

42. Actual cost incurred

Description

Implement a well defined and structured model for both capital and operating costs that the Crown will accept for gathering, compressing and processing Crown volumes.

Preliminary Disposition

Parked – no further analysis.

- Did not find any industry support for an approach based on actual incurred costs.

Features

- Crown and industry cost shares clearly defined.
- Linked with joint venture accounting where possible, i.e., data link.
- Common industry and accounting formats used where possible.
- Clear and concise business rules pertaining to capital and operating issues.

Related Issues and/or Prerequisites

Pro's

- Reflects actual costs incurred. The Crown pays its share of costs incurred rather than those estimated, projected or averaged, as per the intent of legislation.
- Eliminates unit operating cost rates that do not represent actual costs incurred.
- Reflects cost/volume relationships as volumes continue to fluctuate.
- Recognizes current differential costs of processing by plant or other category.
- Aligns with royalty payers' costs to gather, compress and process the product. Why should Crown costs be different?
- Eliminates the financial burden resulting from the Crown underpaying actual costs incurred by royalty payers on behalf of Crown volumes.
- Provides industry with a stable and consistent investment environment.
- System already established for designated 38 plants.
- Eliminates the need to grandfather or provide exceptions. Do they exist today?

Con's

- Not as much incentive for rationalization as an allowance cost.
- Difficult to gain agreement on the acceptable Crown costs.
- Perceived to be not as simple as rate costing.
- Associated business rules can be difficult to administer.
- Adds administration to royalty and tax programs for both industry and Crown.
- Requires a 13th month reducing revenue determination certainty.
- Has a distributional impact that is imposed because of going full circle.