



# Alberta Energy

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November 2018

## Summary

- 15 Total Recommendations
- 2 New Recommendations
- 13 Outstanding Recommendations
- 6 Outstanding Recommendations Older than 3 Years
- 9 **READY** for Follow-up Audit
- 6 **NOT READY** for Follow-up Audit

We issued unqualified independent auditors' reports on the 2017–2018 financial statements for the Ministry of Energy, the Department of Energy, the Alberta Energy Regulator (AER), the Alberta Utilities Commission (AUC), the Alberta Petroleum Marketing Commission (APMC) and the Post-Closure Stewardship Fund.

There are no new recommendations to the department or the AUC in this report. The department has two outstanding recommendations.

There are no new recommendations to the AER in this report. The AER has seven outstanding recommendations, six of which have been outstanding for more than three years.

There are two new recommendations to the APMC in this report - see below.

The APMC has four outstanding recommendations.

## Findings

### Alberta Petroleum Marketing Commission

#### Improve processes and controls for financial models

##### Context

The APMC is managing a large-scale, complex processing agreement with Northwest Redwater Partnership (NWRP) that commits about \$26 billion of government resources to supply bitumen to the Sturgeon refinery over a 30-year period. NWRP forecasts that the refinery will begin commercial operations by the end of 2018. APMC, an agent of government, has the role of feedstock provider, toll payer, and subordinated debt lender. The agency will also start collecting its share of revenues from the sale of petroleum products after the refinery begins commercial operations.

For financial reporting, the APMC must assess the financial condition of the processing agreement at each year end. The accounting standards require it to determine if the unavoidable costs of meeting its obligations under the processing agreement exceed the economic benefits. If this is the case, APMC must record an expense and a corresponding liability to recognize the loss in the annual financial statements.

Since inception of the processing agreement, APMC began using a complex cash-flow-valuation model in Excel to calculate the net present value (NPV) of cash flows spanning over at least 40 years. If the cash-flow model shows that the NPV of the costs of its obligations exceeds the financial benefits, APMC must account for the loss. The model is inherently complex because the NPV calculations depend on a number of variables (inputs) and heavily rely on the professional judgments of management. For example, the variables include crude oil prices (WTI), heavy-light differentials, ultra-low-sulphur diesel-WTI premiums, exchange rates, capital costs, operating costs, interest rates, discount rates, and operating performance compared to capacity.

#### Criteria: the standards of performance and control

The APMC should have effective processes and controls for sustaining its NPV cash-flow-valuation model. This includes:

- appropriate change management and access controls for its spreadsheets
- robust processes and documentation for management’s assumptions, including support to defend management’s judgements
- appropriate governance and oversight process over the model

#### Our audit findings

##### Key Findings

- Cash-flow model supports a positive NPV at APMC’s year-end; hence the agency did not need to record losses.
- Change-management practices could benefit from application of stronger controls.
- Management’s assumptions and judgements warrant improved support for better transparency.
- Access controls need improvements.

Overall, we found enough evidence to confirm the validity of APMC’s management conclusion that the model calculated a positive net present value at December 31, 2017. The board fulfilled its oversight responsibility by reviewing management’s model analysis and the related accounting conclusion. We agreed that APMC did not have to record a loss in its December 2017 financial statements.

Our audit identified the following areas that need improvement:

- change-management controls
- documentation for management’s reasoning, assumptions, and significant judgements applied in the model
- access controls

#### *Change-management controls need improvement*

APMC does not maintain sufficient documentation of the controls or the rationale used for changes to the model. For example, APMC made changes to the forecast model inputs (e.g., commodity prices and carbon emission costs) without a sufficiently supported and documented rationale. In another example, a rationale was lacking to explain the change in the time period used (from 30 years to 40 years) in the NPV calculation in comparison to the prior year. Also, the revised period did not correspond with the period used to report commitments in the financial statement note.

*Process improvements needed for management of assumptions and key judgements*

APMC does have a process document for its model, but it does not sufficiently describe the assumptions and key judgements that are integral to the model decision process. For example, it does not include what assessment is done, if any, to justify the discount rate being used in the financial model. Also, APMC relies on data from NWRP, the refinery owner, for certain calculations. There is an absence of evidence explaining management's rationale for the decision and steps taken to support and have comfort over the reliance on data from the counter party to the agreement.

*Access to forecasting model needs control improvements*

APMC does not maintain sufficient documentation of the controls in place to ensure user access is appropriate for users' business needs and job functions. APMC has five individuals who were permitted to access the model.

**RECOMMENDATION:****Improve controls over the cash-flow model**

We recommend that the Alberta Petroleum Marketing Commission implement stronger access and change-management control procedures to ensure that access and changes to the financial model are working in a controlled and consistent manner.

We recommend that the Alberta Petroleum Marketing Commission improve its method for supporting, updating, and documenting assumptions and key judgements applied to its model analysis.

**Consequences of not taking action**

Without good access and change-management controls, uncontrolled changes could introduce failures in the model and impair the quality of model outcomes.

Without a good process and documentation for management's reasoning, assumptions, and judgements, the underlying process may be perceived as not transparent, and management may be challenged in defending its decisions. A sound and well evidenced process also demonstrates how the risk of bias is appropriately minimized in the financial model.

## Recommendations

| WHAT  | WHEN                        | STATUS    |
|---|-----------------------------|-----------|
| <p>DEPARTMENT<br/> <b>USER ACCESS CONTROLS:</b><br/> <b>Improve controls over access to key business systems</b></p> <p>We recommend that the Department of Energy document conflicting roles within its key business systems and ensure appropriate controls are in place where conflicting roles are identified.</p>  | October 2016, no. 16, p. 99 | NOT READY |
| <p>DEPARTMENT<br/> <b>SYSTEMS TO MANAGE ROYALTY REDUCTION PROGRAMS:</b><br/> <b>Evaluate and report on royalty reduction program objectives</b></p> <p>We recommend that the Department of Energy annually evaluate and report whether the department’s royalty reduction programs achieve their objectives.</p>  | February 2016, no. 1, p. 18 | READY     |
| <p>ALBERTA ENERGY REGULATOR<br/> <b>SYSTEMS TO ENSURE SUFFICIENT FINANCIAL SECURITY FOR LAND DISTURBANCES FROM MINING:</b><br/> <b>Improve program monitoring</b></p> <p>We recommend that the Alberta Energy Regulator, as part of its enterprise risk assessment process, develop and execute on a risk-based plan for its Mine Financial Security Program monitoring activities to ensure it is carrying out the appropriate amount of verification.</p> | July 2015, no. 3, p. 31     | READY     |
| <p>ALBERTA ENERGY REGULATOR<br/> <b>SYSTEMS TO REGULATE PIPELINE SAFETY AND RELIABILITY IN ALBERTA:</b><br/> <b>Use risk management activities to make informed decisions</b></p> <p>We recommend that the Alberta Energy Regulator use its risk management activities to make informed decisions on allocating resources and determine the nature and extent of activities to oversee pipelines.</p>   | March 2015, no. 4, p. 46    | READY     |
| <p>ALBERTA ENERGY REGULATOR<br/> <b>SYSTEMS TO REGULATE PIPELINE SAFETY AND RELIABILITY IN ALBERTA:</b><br/> <b>Formalize training program for core pipeline staff</b></p> <p>We recommend that the Alberta Energy Regulator complete a skills gap analysis and formalize a training program for its core pipeline staff.</p>   | March 2015, no. 5, p. 46    | READY     |
| <p>ALBERTA ENERGY REGULATOR<br/> <b>SYSTEMS TO REGULATE PIPELINE SAFETY AND RELIABILITY IN ALBERTA:</b><br/> <b>Identify performance measures and targets</b></p> <p>We recommend that the Alberta Energy Regulator identify suitable performance measures and targets for pipeline operations, assess the results obtained against those measures and targets, and use what it learns to continue improving pipeline performance.</p>                      | March 2015, no. 6, p. 51    | READY     |
| <p>ALBERTA ENERGY REGULATOR<br/> <b>SYSTEMS TO REGULATE PIPELINE SAFETY AND RELIABILITY IN ALBERTA:</b><br/> <b>Review pipeline incident factors</b></p> <p>We recommend that the Alberta Energy Regulator:</p> <ul style="list-style-type: none"> <li>expand its analysis of pipeline incident contributing factors beyond the primary causes</li> <li>promptly share lessons learned from its investigations with industry and operators</li> </ul>       | March 2015, no. 7, p. 53    | READY     |

| WHAT   | WHEN  | STATUS           |
|--|---|------------------|
| <p>ALBERTA ENERGY REGULATOR<br/> <b>SYSTEMS TO REGULATE PIPELINE SAFETY AND RELIABILITY IN ALBERTA:</b><br/> <b>Assess current pipeline information</b></p> <p>We recommend that the Alberta Energy Regulator complete an assessment of its current pipeline information needs to support effective decision making, and determine the type and extent of data it should collect from pipeline operators, through a proactive, risk-based submission process.</p>  | <p>March 2015,<br/>no. 8, p. 56</p>                           | <p>READY</p>     |
| <p>ALBERTA ENERGY REGULATOR<br/> <b>SYSTEMS TO REGULATE PIPELINE SAFETY AND RELIABILITY IN ALBERTA:</b><br/> <b>Implement risk-based compliance process</b></p> <p>We recommend that the Alberta Energy Regulator implement a cost effective risk-based compliance process to evaluate the adequacy and effectiveness of pipeline operators' integrity management programs, and safety and loss management systems.</p>  | <p>March 2015,<br/>no. 9, p. 59</p>                           | <p>READY</p>     |
| <p>ALBERTA PETROLEUM MARKETING COMMISSION<br/> <b>OFFICE OF THE AUDITOR GENERAL OF ALBERTA—NOVEMBER 2018:</b><br/> <b>Improve controls over the cash-flow model</b></p> <p>We recommend that the Alberta Petroleum Marketing Commission implement stronger access and change-management control procedures to ensure access and changes to the financial model are working in a controlled and consistent manner.</p>  | <p>November 2018,<br/>Financial Statement Auditing, p. 69</p> | <p>NEW</p>       |
| <p>ALBERTA PETROLEUM MARKETING COMMISSION<br/> <b>OFFICE OF THE AUDITOR GENERAL OF ALBERTA—NOVEMBER 2018:</b><br/> <b>Improve controls over the cash-flow model</b></p> <p>We recommend that the Alberta Petroleum Marketing Commission improve its method for supporting, updating, and documenting assumptions and key judgements applied to its model analysis.</p>   | <p>November 2018,<br/>Financial Statement Auditing, p. 69</p> | <p>NEW</p>       |
| <p>ALBERTA PETROLEUM MARKETING COMMISSION<br/> <b>APMC'S MANAGEMENT OF AGREEMENT TO PROCESS BITUMEN AT THE STURGEON REFINERY:</b><br/> <b>Develop processes for risk management and staff capacity, and ensure board oversight</b></p> <p>We recommend that:</p> <ul style="list-style-type: none"> <li>The Alberta Marketing Commission develop and document effective processes for managing risk and for ensuring the commission has sufficient expertise to manage its business arrangements</li> <li>The board of directors exercise oversight by ensuring the Alberta Petroleum Marketing Commission has these processes in place</li> </ul> | <p>February 2018,<br/>p. 74</p>                               | <p>READY</p>     |
| <p>ALBERTA PETROLEUM MARKETING COMMISSION<br/> <b>APMC'S MANAGEMENT OF AGREEMENT TO PROCESS BITUMEN AT THE STURGEON REFINERY:</b><br/> <b>Improve reporting to Albertans</b></p> <p>We recommend that the Alberta Petroleum Marketing Commission prepare a business plan and an annual report that are made publicly available to Albertans. The APMC must be able to demonstrate it has given appropriate consideration to the nature and extent of information it will share will Albertans.</p>   | <p>February 2018,<br/>p. 79</p>                               | <p>NOT READY</p> |
| <p>ALBERTA PETROLEUM MARKETING COMMISSION<br/> <b>APMC'S MANAGEMENT OF AGREEMENT TO PROCESS BITUMEN AT THE STURGEON REFINERY:</b><br/> <b>Establish performance measures and targets</b></p> <p>We recommend that Alberta Petroleum Marketing Commission develop performance measures, set targets and compare results against planned performance.</p>  | <p>February 2018,<br/>p. 79</p>                               | <p>NOT READY</p> |

| WHAT  | WHEN   | STATUS   |
|---|--|--|
| <p>ALBERTA PETROLEUM MARKETING COMMISSION<br/> <b>APMC'S MANAGEMENT OF AGREEMENT TO PROCESS BITUMEN AT THE STURGEON REFINERY:</b><br/> <b>Complete a lessons learned analysis</b></p> <p>We recommend that the Alberta Petroleum Marketing Commission complete an analysis of the lessons learned from its significant agreements, at a point in time when the commission deems it useful to do so.</p> | <p>February 2018,<br/>                     p. 79</p> | <p><b>NOT<br/>                     READY</b></p> |