

Moose Jaw Combined Cycle Gas Turbine Power Project Value for Money – Needs Assessment



Diagram Source: Advisorsenergy.com

April 2019

Introduction

Planned retirement of traditional coal units and continued load growth in Saskatchewan has created a need for additional baseload power. SaskPower requires 350 MW by 2024. As a result, SaskPower will be building a new combined cycle gas turbine (CCGT) in Moose Jaw Industrial Park.

CCGTs have become the technology of choice for new gas-fired power plants given their short implementation time, lower investment costs, and low emission levels. CCGT's also offer operational flexibility to act as base or peak load facilities. This allows generation to be dispatched if intermittent generation sources such as wind are not available. Additionally, low natural gas prices and efficiency improvements make it the lowest cost option available to support renewable generation.

Moose Jaw Industrial Park was selected after site assessments and consultations were completed on Moose Jaw and three other sites in the Belle Plaine and Regina area.

A value for money (VfM) needs assessment was undertaken to ensure best value for ratepayers and to ensure transparency.

Summary of Key Issues and Finding/Conclusion

- The Government of Saskatchewan is committed to a high standard of disclosure and accountability for the delivery of major projects in the province. A VfM analysis was undertaken in 2016 to support a decision regarding the procurement of a natural gas generation facility in Swift Current, Saskatchewan. It concluded that a SaskPower self-build option (SBO) provided the best value to ratepayers.
- SaskPower is proposing a new natural gas facility that will be similar to the Swift Current Chinook plant in size and technology.
- CIC recommended a VfM needs assessment on the Moose Jaw project to determine if conditions are consistent enough to rely on the VfM results used to evaluate the Swift Current Chinook procurement.
- An assessment committee including CIC and SaskPower executive representation, in consultation with Navigant Consulting, was tasked with completing the needs assessment.
- Navigant Consulting, an expert in the energy industry, was retained as a VfM consultant for the analysis completed on Chinook. CIC engaged Navigant again to provide expertise and recommendations to the VfM needs assessment evaluation committee.
- **The results indicate that there has been slight to moderate change in various key factors; however, not material enough to warrant another VfM analysis. As such, the results from the Chinook VfM analysis are still relevant such that SaskPower is expected to provide the best value option to build, own, and operate the proposed Moose Jaw facility.**

Value for Money Needs Assessment Framework

In November 2016, VfM analysis([VfM Report - 2016](#)) determined a SaskPower SBO was in the economic best-interests of Saskatchewan ratepayers in contrast to the power being sourced through an agreement with an independent power producer (IPP). Early in 2019, SaskPower proposed a similar natural gas facility to Chinook, this time in Moose Jaw. Government procurement process would typically require a VfM analysis for a project of this size and cost to ensure ratepayers receive best value. However, not much time has passed since SaskPower's last build and the conditions were viewed as largely similar. In addition, VfM analysis is complex, time consuming and costly. Based on these factors it was possible that VfM analysis wouldn't provide any additional value, could yield the same results, and result in additional cost to ratepayers.

Nonetheless, new gas plants require significant investment and it was imperative that an objective process be undertaken to determine whether a new VfM assessment was warranted. In response, CIC formed an assessment committee with CIC and SaskPower executive representation and engaged Navigant Consulting to support the committee in developing an objective *VfM Needs Assessment Framework* evaluating key risk factors to determine if conditions (e.g. market, construction, labour, finance) were consistent enough to rely on the Chinook VfM results.

The *VfM Needs Assessment Framework* objective is to provide support to stakeholders when assessing if a full VfM process is likely to result in similar benefits to the province in the current economic, commercial, technology, policy and regulatory environment.

The 2016 VfM determined clearly and definitively that a SaskPower SBO was the most economic option for the province. It is reasonable to assume that with the same, or similar conditions in the market, a VfM result would be the same for future projects similar in size and technology. However, if enough has changed in Saskatchewan policy and financial position, as well as in global capital markets, the IPP industry and the regulatory regime, it is possible that the 2016 VfM adjusted evaluated costs of the SaskPower build option and the highest ranked IPP could change such that the previous net savings would be reduced or eliminated.

The VfM Needs Assessment was to support the evaluation committee in making a recommendation on the need for a full VfM process using a streamlined assessment of current market conditions. A number of risk factors have been assessed using a scoring methodology employed by an independent committee (see process below).

Value for Money Needs Assessment Framework (NAF) and Result

The VfM NAF is comprised of *criteria questions* that objectively assess the need for a VfM analysis against a set of market factors and risks. The NAF is designed to align with the expected risks of power plant project development in Saskatchewan and is assumed to be similar in nature in all material respects to the risks evaluated as part of the 2016 VfM analysis.

Relative to a set of key market assessment factors and risks, scoring criteria was developed to form an opinion whether Chinook VfM results are still valid and applicable to the new natural gas plant. The scoring system had embedded weightings to capture the importance of each key factor considered. It determined that there is a slight to moderate change in market conditions and other key factors; however, not material enough to warrant a new VfM.

VfM Project Risk Register

Risks
Design, construction, and commission risk
Contractual risk including that the engineering, procurement and construction contractor and its sub-contractors will not fulfill their contractual obligations
Financial risks including that the SBO will be unable to obtain financing, or that financial parameters change significantly at financial close or that the project fails financially later
Operating and performance risks
Demand or usage risk including loss of SaskPower load
Industrial relations risks including risks of work stoppage
Asset ownership risk including latent defect and obsolescence
Change in law risk
Other risks as determined appropriate by Evaluation Committee

The risks noted above are not an exhaustive list of considerations, but provides a robust and objective basis to establish discussion and formulate a credible recommendation in assessing the need for a VfM analysis. The NAF offers a tool to support Cabinet’s consideration of a new CCGT build in Saskatchewan and the appropriate project delivery method that will be beneficial for ratepayers.

Result

The committee determined that the results indicate that there has been slight to moderate change in various key factors; however, not material enough to warrant another VfM analysis. As such, the results from the Chinook VfM analysis are still relevant such that SaskPower is expected to provide the best value option to build, own, and operate the proposed Moose Jaw facility.