

Brookfield

Power & Utilities Platform

Brookfield Asset Management's Platform
Focused on Power Generation and Electric Utilities



**COMMENTS ON AESO DRAFT
RECOMMENDATION PAPER 04/2011**

Overview

- On March 31, 2011, AESO published its Draft Recommendation Paper for the Competitive Process for Critical Transmission Infrastructure
- AESO invited comments from interested stakeholders on a number of issues:
 - Comments on all aspects of the AESO cost recovery / pricing scheme including:
 - Implied allocation of risk under Option 1 and Option 2
 - O&M escalation provisions including proposed indices
 - Information the AESO could provide to assist with route estimation in advance of bid submissions
 - Performance specifications
 - Contract Term
 - Whether to bid the stages of the Fort McMurray as one project or each stage of the project separately.
- Brookfield is pleased to provide comments on these issues which we hope will help AESO complete their development of a robust, enduring procurement process.

Structure of Brookfield's response

- Overall Comments
- Opportunities to reallocate risks
- Opportunities to reduce risks to be allocated
- Fort Mc Murray

Comments on AESO-Own Model

- As we understand the proposed AESO-Own model, transmitters are effectively being asked to bid a fixed price and guaranteed schedule for an incompletely specified transmission facility to be built at an unknown time in the future. Once it is built, the transmitter will be required to operate it in accordance with future international operating standards for ten to twenty years. It is not yet known what happens at the end of this operating period.
- We are not aware of any reasons why the AESO-Own model would not work. In principle, it is no different from merchant transmission with a single long-term customer.
- However the ‘price tag’ seen by consumers, driven by the investment returns required to support the implied level of risk, may result in ratepayer ‘sticker shock’. There is a risk the cost may be perceived to be unacceptable compared to what would be payable under cost-of-service rate making.
- We would therefore like to explore opportunities to refine the AESO-Own model and to temper ‘sticker shock’ by:
 - Reallocating certain risks between transmitters and ratepayers
 - Reducing overall risk by giving transmitters more opportunity to better define the project prior to completing the competitive RFP

RISK RE-ALLOCATION



Risk re-allocation

- The proposed competitive procurement model exposes transmitters to significant risk by requiring them to provide a fixed price and schedule so far in advance of contract award and the completion of development, permitting and construction activities.
- There are three associated issues:
 - Not only is the RFP/development/permitting/construction activities time consuming, the time needed to complete them, in the absence of fixed regulatory service times, is uncertain. The overall bid-to-completion process could take as little as four years e.g. Texas, or more than a decade e.g. Wyoming-Jackson Ferry 765kV Project.
 - While completing these activities, the transmitter is fully exposed to inflation risk, equipment and labour cost changes, commodity/exchange rate volatility and regulatory changes.
 - The time taken to complete these activities is generally too long for the transmitter to readily and cheaply hedge these risks with using traditional tools such as fixed price construction contracts, commodity futures, call-off options for equipment etc.
- This is not to say that transmitters cannot manage these risks, just that the required risk premium may be significant compared to the capital cost of the facilities under traditional cost-of-service rate making.

Risk re-allocation - inflation

- According to Statistics Canada, annual price inflation measured by CPI has varied between 0.1% and 12.5% over the 40 years since 1971.
- Based on this data, the CPI exposure between bid and completion (which could be anywhere between 4 and 10 years, or longer) could be anywhere between 4% and 151%.
- It could be argued that ratepayers have a natural hedge against inflation over long periods of time – salaries and benefits tend to rise with inflation through annual pay increases, indexation etc. and asset values such as house prices, tend to track household incomes.
- It may therefore be appropriate for inflation risk to be transferred from transmitters to ratepayers e.g. by indexing the transmitter's bid price.

Risk re-allocation – construction and equipment costs

- Ratepayers may claim that transmitters are better able to manage construction and equipment cost risk than ratepayers.
- The issue for transmitters is that it is difficult to manage these risks by passing them to contractors and suppliers through fixed price contracts because
 - The specification is incomplete at the time the RFP has to be finalized
 - Construction is so far into the future, an issue compounded by
 - the uncertain duration of the permitting process
 - the possibility that standards and regulations may change
 - obsolescence of selected equipment
 - the unavailability of futures and forwards with very long maturities
- Ratepayers have a partial natural hedge against construction and equipment costs because
 - construction is a significant part of the Alberta economy
 - commodities are a large part of the economy

Risk re-allocation – construction and equipment costs (2)

- Three potential approaches to managing this risk include:
 - Allocating the risk to transmitters and allow them to price it into their bids
 - The premium may be unacceptable to ratepayers
 - Allocating the risk partly to ratepayers by indexing the transmitter’s price against a suitable index e.g. Electric utility construction price indexes (Table 327-0011) published by Statistics Canada
 - How accurate is the index?
 - How relevant is it to conditions in Alberta?
 - Should prices also be indexed to an Alberta-specific index perhaps derived by AESO/AUC?
 - Allocating all the risk, other than prudence, to ratepayers by allowing for a pre-construction regulatory cost true-up e.g. Texas
 - Socializes cost escalation risk through an existing well understood, fair and transparent process

Risk re-allocation – permitting duration

- In the absence of prescribed service times, transmitters have little control over the duration of the permitting process provided their application is complete and accurate. In particular, the transmitter cannot prevent an intervener seeking judicial review of a tribunal's decision, and will suffer permitting delay even if the intervener's application is subsequently found to be frivolous and vexatious.
- The risk of permitting delays is manifest in three ways:
 - cost over-runs caused by the project delay;
 - cost over-runs caused by inflation; and
 - loss of bonus or exposure to damages by missing project milestones.
- Note that although development costs themselves are a risk for transmitters, they are perhaps not the most significant risk.

Risk re-allocation – permitting duration (2)

- The preferred long-term option would be for regulatory changes to bring time certainty to the permitting process e.g. prescribed timelines for official review etc.
- In the short-term and in the absence of regulatory change, there are a number of possible options including:
 - Making transmitter’s costs subject to regulatory cost true-up if the permitting process takes longer than a pre-agreed duration for reasons outside the transmitter’s control
 - What delays are in the transmitter’s control?
 - What prevents the transmitter’s offer assuming an unrealistically quick permitting process?
 - Assuming ratepayers ‘rent’ the project from the transmitter for the duration of the permitting process at a pre-agreed \$/month rate
 - Permitting risk is mainly transferred to ratepayers

Risk re-allocation – line length

- The line length cost risk is relatively small compared to inflation, cost and permitting duration risks.
- The AESO-Own model's allocation of line length risk to ratepayers may give transmitters incentives e.g.
 - the transmitter bases its RFP response on a short route using cheap towers unsuitable for the route and, once selected, changes to a longer route than can be built using the cheap towers;
 - the transmitter selects an alternative route to get round an unforeseen obstacle where an alternative technology e.g. low height towers, would have given an overall lower cost to ratepayers.
- Given that line length is just one factor in the overall cost of a new line, and given the relative size of this risk compared to other risks, it is not clear whether allocating this risk to ratepayers will lead to the best outcome.

Risk re-allocation – counterparty risk (for AESO)

- The risk for AESO / ratepayers is that the winning transmitter sees the contract as an option rather than a commitment e.g.
 - if construction costs do not rise as quickly as the transmitter forecasted when preparing its RFP, it is profitable to go to construction and complete the project;
 - if construction costs rise faster than forecast, it is more profitable to pay the liquidated damages and abandon the project.
- We suggest AESO considers appropriate commercial incentives e.g. bonding requirements, capitalization, bonuses/damages, transfer of ownership in administration, etc to ensure the project is completed on the terms originally agreed even if this results in the commercial failure of the originally selected transmitter.

Risk re-allocation – counterparty risk (for transmitter)

- There are two counterparty risks for transmitters:
 - Credit worthiness of AESO as a counterparty
 - Risk that project is delayed or abandoned by AESO
- As a regulated not-for-profit statutory corporation, AESO’s credibility as a counterparty can be readily evaluated.
- The risk of project delay is difficult to evaluate. Although Bill 50 provides the need for new CTI, we are not aware of any prescribed in-service dates. The risk for transmitters is that the in-service date is delayed after contract award.
- AESO should give some thought in designing the process as to what will happen if future studies determine that the optimal in-service date for a project has changed since contract award.

Risk re-allocation – O&M costs

- Transmitters are required to provide a price, subject to indexation, for operating and maintaining the facilities for the duration of the concession period. The appropriate index has not yet been identified.
- We think ratepayers are best able to manage cost inflation risk for the reasons discussed earlier.
- AESO should in designing its process give consideration to some additional risks:
 - Future changes to regulations and standards e.g. elimination of SF6 as an insulator requiring switchgear replacement (many millions \$), addition of new animals to the Species at Risk Act, more stringent North American transmission reliability standards, changes to corporation taxes. Given the very long duration of the concession:
 - Are these risks more cost effectively managed by the transmitter or ratepayers?
 - If by transmitters, should O&M costs be subject to routine regulatory review e.g. every fifth year, or should it be on an exception basis; and, if so, what constitutes an exceptional regulatory change?
 - What are the appropriate performance criteria for the transmitter to meet?
 - Guaranteed availability over a period sufficiently long to recognize the infrequency of overhaul outages; short-term guaranteed availability e.g. over winter peaks; emergency and *force majeure* restoration times; electrical losses; long-term, short-term and emergency transfer capacities; etc.

Contract Term

- Brookfield generally believes that longer contract terms provide better value for ratepayers subject to the term being commensurate with the life expectancy of the underlying asset: in the case of transmission is typically considered to be in the range 30 – 50 years although it is sometimes necessary or economic to replace certain components earlier.
- Contract terms in other jurisdictions for similar infrastructure have typically been in range 25 – 30 years with the possibility of limited extensions.
- AESO needs to decide whether the contract term includes development, permitting, and construction activities
 - Inclusion provides the transmitter an automatic bonus/penalty mechanism for schedule deviations; but
 - Inclusion further exacerbates the affect of permitting delays outside the transmitter’s control, increases risks and thus cost to ratepayers
- AESO should take care to structure the functional specifications so the facility life expectancy and contract term are consistent with the long term need

After the contract term

- At the end of the contract term, there are a number of options:
 - Transfer the transmission facilities to ratepayers
 - Who would be responsible for their continued operation and maintenance?
 - Require the transmitter to continue to operate the facilities under AUC cost-of-service regulation until no longer required
 - What is the transfer value, if any?
 - May have tax implications
 - Invite transmitters to bid on a new ‘concession’ to refurbish and operate the facilities
 - Extend the existing contract with/without amendment
- For the transmitter, each alternative has its costs and benefits e.g. committing today to operate under an unknown future regulatory regime v. option to reinvest in the future
 - The competitive process should be designed to capture the net benefit for ratepayers
 - The NPV of the net benefits is likely to be very small compared to the overall cost
 - The process should be sufficiently robust to protect future ratepayers’ interests while remaining attractive to potential transmitters and preserving the value of the relationship between the transmitter and land owners
 - The balance would seem to lie towards the transmitter continuing to operate the facilities, assuming they are still required, either under AUC regulation or by contract extension

RISK REDUCTION



Risk reduction

- The previous pages spoke to opportunities to better allocate risks between ratepayers and transmitters. In addition or instead, there may also be opportunities to reduce project risk.
- The main risks inherent in AESO-Own model as we understand it include:
 - The incomplete project specification used to price the RFP response
 - The time between submitting a binding RFP response and completing construction
- Both these risks could be reduced by allowing transmitters time to substantially complete development work – perhaps up to but not including applying for major permits - prior to submitting their RFP response.
- This would allow transmitters to have:
 - Confirmed the route, taken options on key parcels of land, and determined the need for expropriation (if any)
 - Completed sufficient technical, survey and geotechnical work to prepare a detailed and comprehensive technical specification
 - Gained a good understanding of the level of public support and thus the likely duration of the permitting process (or indeed whether permits will even be realistically obtainable)
 - Entered into fixed price options with equipment vendors and construction contractors
 - Demonstrated their capacity to complete the project

Risk reduction (2)

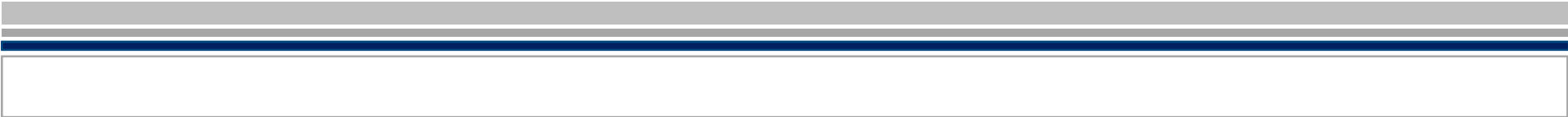
- The cost to transmitter's of completing pre-RFP development work will be substantial e.g. \$20m - \$50m, and this raises some other issues:
 - Competing transmitters will need to be financially strong (a good thing)
 - The number of RFP competitors will need to be limited (perhaps limited to 2 or 3) for the competition to be attractive
 - Their needs to be a high degree of certainty that AESO will not arbitrarily decide to not award a contract
 - The RFP process needs to be able to eliminate unrealistically low cost proposals
 - There will need to be clear public messaging to prevent confusion as multiple transmitters meet with landowners and the public
 - Transmitters may require substantial honorarium to participate
 - However the financial benefits of competition to ratepayers may justify the cost of honorarium
 - The honorarium could be refunded by liquidated damages payable if the winning transmitter defaults

FORT MC MURRAY RFP



Options for staging Fort Mc Murray

- The proposed Fort Mc Murray project as described in the draft functional specification comprises three separate lines and associated terminals at an approximate cost of \$¼bn , \$¾bn and \$¾bn respectively with proposed in-service dates of 2017, 2019 and 2021.
- In assessing whether Fort Mc Murray should be let as a single, phased contract or two/three separate contracts, AESO should consider:
 - The opportunities for capturing economies of scale if the three contracts are let as a single package
 - The risk of letting a project of this size as a single project using an untested process
 - The willingness of suitably qualified investor/constructors to take on a project of this size
 - The benefit to ratepayers from attracting additional resources and innovation by having to or three separate projects
- Our initial view, in the absence of a detailed RFP contract specification, would be to subdivide the work into two projects (east and west).
 - This limits exposure if the process does not work properly; and
 - If there are true economies of scale, then the same transmitter should win both projects allowing ratepayers to benefit



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