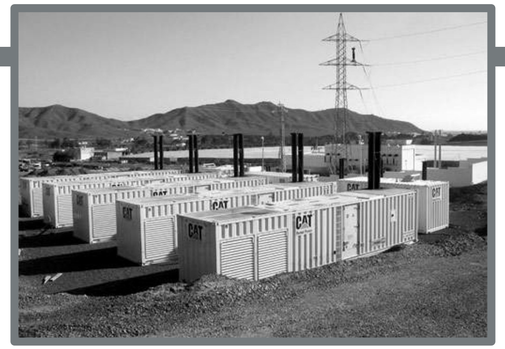
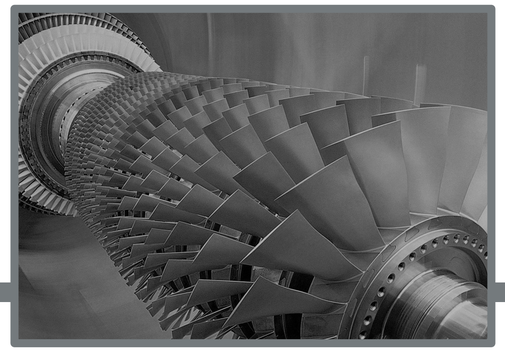




URICA

URICA PROPOSAL TO THE AESO

Participant-Related Costs for DFOs (Substation Fraction) and DFO Cost Flow-Through

APRIL 30, 2020

URICA Energy Management Corporation

FACILITY DISPATCH

Providing an outsourced, essential service for over 3,000MW of power generation, we provide the plant generation instructions and communicate with the AESO.

ASSET OPTIMIZATION

Collaborating with owners of over 500MW of power generation, we work to maximize the return from their generating facilities through sophisticated commercial management.

PORTFOLIO MANAGEMENT

Whether a generator or consumer, we develop and execute strategies to procure energy, shed load, and balance the customer's position.

CONSULTING & ADVISORY

Utilizing our market knowledge and in-depth experience, we work with clientele to analyze, educate, and effectively participate in the market.

CONTENTS

PROPOSAL SUMMARY

URICA's Proposal achieves cost certainty necessary to support continued investment in DCG in Alberta, but also assigns equitable costs for the connection to the system.

- DCG pay 100% of the Incremental Connection Costs to Connect;
- DCG would be charged a System Contribution Charge:
  - Applied to costs of shared facilities between DCG point of connection and the regional system;
  - Essentially a charge for access and use of the transmission system; and
  - The charge would be reviewable each tariff cycle or less depending on AESO tariff methodology moving forward.
- DCGs will not be assessed additional costs moving forward for future system upgrades.

AESO PRINCIPLES

Principle 1:

Parity between transmission interconnection costs calculation for transmission connected customers and distribution connected customers.

URICA PROPOSAL ADHERENCE

- Neither DCGS not TCGs should be assessed costs after connection.
- Parity cannot be viewed through the lens of interconnection costs only.
- Many decisions go into determination of TCG versus DCG not just interconnection costs. Should be viewed holistically.
- Substation fraction methodology was not contemplated to apply to DCGs/DFOs and does not function effectively for that purpose.
    - URICA proposal eliminates this issue because we are replacing the substation methodology with a system contribution methodology.

AESO PRINCIPLES

Principle 2:

Market participants should be responsible for an appropriate share of the costs of transmission facilities that are required to provide them with access to the transmission system.

URICA PROPOSAL ADHERENCE

- The contribution towards the costs of shared facilities will be assessed based on STS contract. DCG pays STS charges based on flows onto the transmission system.
- Will require transparency ease of access to feeder level details to ensure that STS values are accurate based on DCG levels and actual feeder load to ensure that are responsible only for costs properly attributed to DCG.
- Upfront transmission access charge would create a standardized $/MW charge, regardless of substation connection point in Alberta.
- Cost would be known in advance of connection so DCG has clarity of costs prior to energization.

AESO PRINCIPLES

Principle 3:

Costs should not be allocated to a DCG customer after the DCG has energized, if the DCG is not directly causing those costs.

URICA PROPOSAL ADHERENCE

- After paying the incremental connection costs and the contribution towards the costs of shared facilities, DCGs will not be assessed additional costs moving forward.
  - This provides investment certainty.
- However, further costs to the system based on DCG facility additions or amendments would be a flow through incremental cost to DCG.
  - Additional or incremental costs to the system caused by the DCG will be paid for by the DCG.

AESO PRINCIPLES

Principle 4:

DFOs should be provided with reasonable certainty re: cost treatment/recovery.

URICA PROPOSAL ADHERENCE

- DFOs will facilitate the flow through shared facility costs at the same time as the processing of the incremental connection costs.
  - Does not create a large amount of additional work for the DFO. In fact, the process for integrating power generation facilities should be unchanged from the historical protocol.
- Historical wires costs remain in DFO rate base and there is no removal of investment from the rate base.
  - Because it is a clearly defined cost allocation at the time of connection estimation costs, there should be no issue with cost recovery from the DFO side.

AESO PRINCIPLES

Principle 5:

Ease of understanding and implementation.

URICA PROPOSAL ADHERENCE

- Assures all charges are known in advance of energization.
  - Economic analysis and financing can be completed with a high level of certainty prior to the outlay of significant capital.
- The use of a standardized system contribution charge makes cost easy to quantify and account for by generators in planning stages.
- The line is clearly established for what the DFO and TFO are responsible for prior to integration of a generator to the system.

PROPOSAL OBJECTIVES

The current methodology allows for the allocation of unknown costs throughout the life of the asset / project creates un-mitigatable risk which make continued investment in DCG extremely unlikely. Updated substation fraction methodology needs to create a stabile platform and known variables for DCG investment in Alberta.

- Prevent allocation of costs to DCG that they did not cause or exacerbate.
- Prevent allocation of future costs to DCG that they are not responsible for.
- Create visibility and transparency of expected costs that cultivate investor certainty and encourage rational DCG project additions in Alberta.
- Time is of the Essence: effective resolution in a timely manner including expedited AUC approval of the solution.
- Best efforts under existing Transmission Regulation.

PROPOSAL DETAIL

- Incremental connection costs – DCG should pay for the incremental cost for transmission upgrades caused by the DCG connection.
  - Attempt to right size or limit sizing of DCG projects based on associated additional costs that these types of projects may induce via cost causation.

- Exchange the existing substation fraction methodology a shared facilities contribution cost towards the facilities costs that were previously allocated using the substation fraction approach in the CCD calculation.

- DCGs would be invoiced a standardized contribution cost towards shared facilities at the time of their invoice for incremental connection costs.
  - Standardized rate at all connection points avoids sending confusing locational incentives to DCG and creating separate arguments regarding substation depreciations etc.

PROPOSAL DETAIL, CONTINUED

- As a part of its incremental connection cost payment, a DCG will pay all costs for facilities only necessary to serve generation.
  - DCG should not share in the costs of additional facilities that are specifically needed to serve load.
  - Propose that DCGs should only pay a contribution towards the costs of shared facilities for core components.
    - Transformer / Voltage Breakers
  - DCGs would be not be charged a standardized contribution cost towards protection and controls.
    - Limit duplication of cost allocation to components that are required to serve load and should be recovered via rate base.
  - The DCG should not pay for supply line costs as unlike a TCG they have no control over how the substation was sited.
    - Would create locational signals not aligned and not correlated to any benefit.

COST ALLOCATION

- Analysis should be completed to determine a typical cost for the transformer and breakers on an average $/MW basis.
  - Current flows both ways through a transformer and therefore full capacity of the transformer is available for both load and generation to use.
  - Costs of transformer and high voltage breaker should be allocated to attribute 50% of the costs to generation.

- Costs need to be reasonable and justifiable.
  - Would be reviewable at each ISO tariff application.

- The contribution towards the costs of shared facilities will be assessed based on STS contract.
  - DCG pays STS charges based on flows onto the transmission system.
  - Requires transparency ease of access to feeder level details to ensure that STS values are accurate.

BENEFITS

- **Alignment to AESO Principles in the hopes of an expedited resolution that will:**
  - Creates a stabile investment environment
  - Creates visibility to costs up front
  - Eliminate the potential for unmitigable future costs

- **Fair allocation of system contributions to DCG versus DFO.**
  - Payment for necessary system upgrades, not protection and controls, not supply line length

- **Creation of proper incentives to DCG to ensure that they are locating in the correct location for the correct reasons.**
  - Do not want DCG making location decisions based on advantageous supply line length or age of substation.
  - Does not provide the correct locational signal based on historic and expected future costs associated with substation upgrades driven by the needs of load customers.

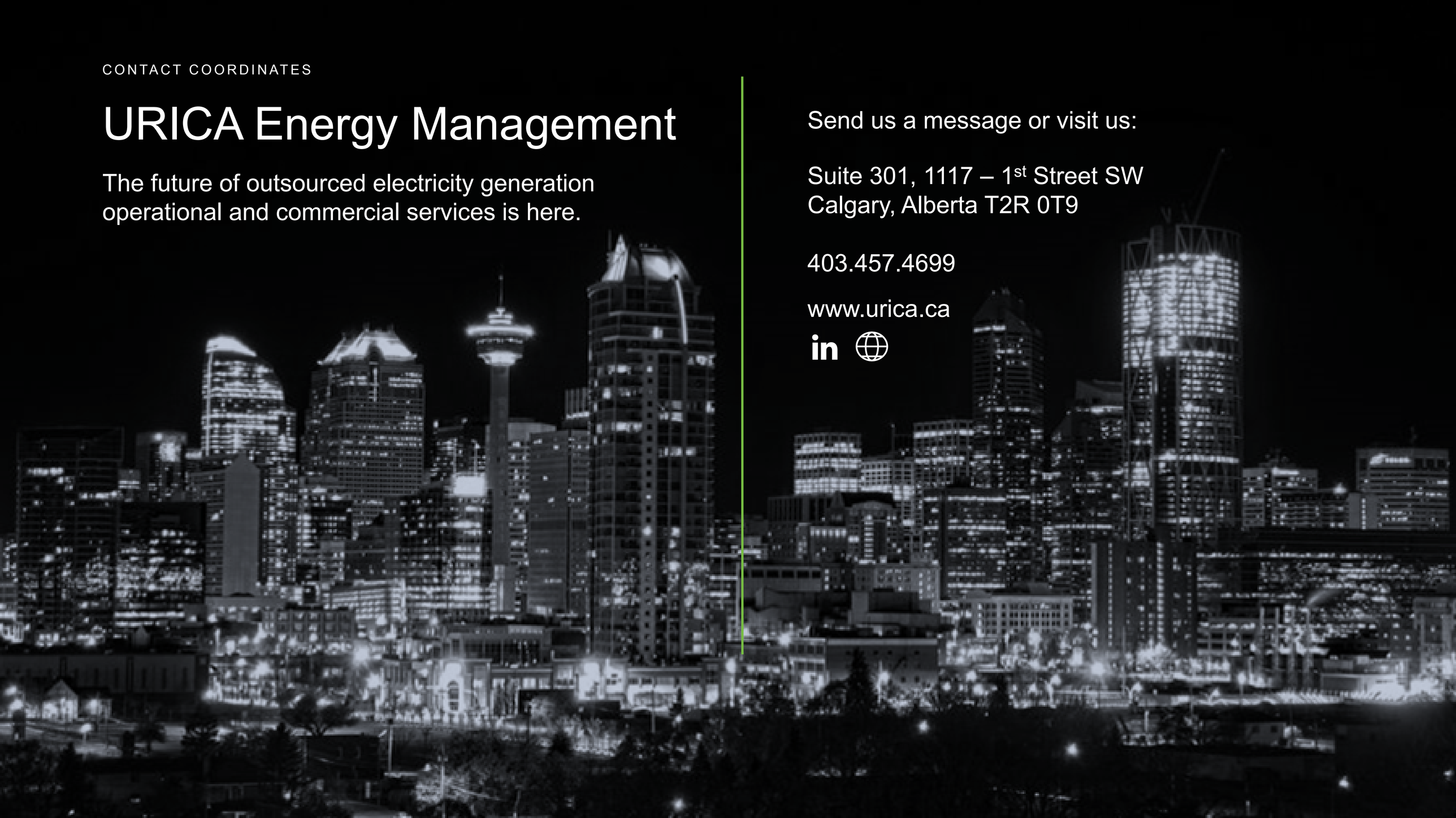
IMPLEMENTATION CONSIDERATIONS

- **The URICA proposal, as with every other proposal, will require DFO effort.**
  - All stakeholders must expend effort to make any resolution workable.
- **Put in place and develop a standardized contribution rate on a per MW basis.**
  - Regulatory burden and effort.
- **Access to Substation and Feeder level data.**
  - Information is key in good decision making.
- **Time is of the Essence.**
  - Delays and drawn out efforts to develop contribution rates leaves Developers and DFOs in limbo for planning and investment.

CONTACT COORDINATES

URICA Energy Management

The future of outsourced electricity generation operational and commercial services is here.



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