

From: John Cannella [/O=IMO/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=JOHN CANNELLA5E4]
Sent: 2017-03-17 11:06:45 AM
To: Jordan Penic [/O=IMO/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=Penicj]
CC: Mary Bernard [/O=IMO/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=Mary Bernard42a]
Subject: media inquiry--follow up--Wind and Gas Contracts---Bay Observer
Attachments: GA Breakdown 2006-2016 - 23Feb2017.xlsx; IESO-Active-Contracted-Generation-List-Wind Facilities Under Developmen....xlsx

Importance: High

Jordan— for your review. Here are proposed speaking points for this follow up media inquiry from the Bay Observer. Thanks.

Mary and I agreed that a phone call is best for these follow up questions. Chuck should take the call. The section in red is feedback I received from Darryl and Bashir on the questions we discussed the other day. Once you reviewed I will send to Chuck.

- 1. Wind Power. I'm trying to put a total dollar cost to the aggregate of contracts now in effect. How do I convert the KWH price to the actual output which is measured in MW? In other words how much are we spending on wind power currently on an annual basis..**
 - After the call, we will send you an attachment by email, which provides a breakdown of the total amount paid to wind generators in Ontario between January 2006 and February 2017.
 - We aren't able to provide a forward-looking projection on how much we expect to pay for any given generation resource, as the total cost of electricity service over the planning outlook is dependent upon several factors.
 - These factors include future demand growth, the cost of operating the existing system and the investments required in new resources to meet potential needs. In the future, notwithstanding the government recent Fair Hydro Plan announcement, energy prices are expected to remain stable over the long term.
- 2. We have a significant amount of gas generation capacity which is a backup for wind. How much are/have we paid for these plants. How are these private sector plants financed? Is it based on their potential output or is it a cost-plus basis? What is the rate we would pay if the gas plants were operating at capacity and the wind was a backup?**
 - The attachment I just mentioned we would send you also contains the total amount paid to natural gas generators during that same time period. You'll notice a row in that chart labeled OEFC, which are payments for contracts held by the Ontario Electricity Financial Corporation. The payments under OEFC include some gas generation contracts they hold but we are unable to provide a cost breakdown by fuel type for those contracts. You'll have to contact OEFC for that information.
 - I'd like to clarify your description of natural gas generation serving as backup for wind. Different resources provide different attributes – such as availability during peak demand, flexibility, energy production, and other considerations like low or no emissions. Because not every facility has all these attributes, diversity of supply is important.
 - The role of natural gas generation in Ontario's supply mix has increased in recent years with the phase out of coal-fired generation. Natural gas makes up approximately 10,000 MW of the province's installed capacity. It is often used to ensure a reliable power supply during times of higher demand and can provide needed flexibility in response

to changing conditions on the power system. Natural gas facilities provide the operational flexibility (ramping up and down on demand) that is critical to operate a reliable electricity system.

- In most cases, the natural gas fired facilities are under contract with the IESO which aids in the ability of the developer to secure equity and debt from the private sector. Examples of the contracts used for natural gas generators can be found on the IESO website. The IESO contracts provide some level of certainty (but do not guarantee) the recovery of fixed costs of having the facility availability to the system. <http://www.ieso.ca/sector-participants/energy-procurement-programs-and-contracts/procurement-archive>
- Specific financing arrangements for individual facilities vary from facility to facility and are the decision of the facility owner in accordance with any applicable contractual requirements. All of our gas generation has been competitively procured and provides good value for the reliability, operability, and capacity services that they provide.
- On your question about the rate we would pay if the gas plants were operating at capacity and the wind was a backup, absent wind production, we would consider the need for additional capacity, energy, and operability. If gas production were to increase to compensate, there would be additional dispatch costs related to natural gas fuel and operating costs.

3. *The government recently announced a cut back on new wind contracts. Will there be any more wind contracts signed in the near future. Are there any contracts in the pipe that have been approved.*

- We will also attach a consolidated version of the active generation contract list, which reflects all wind projects that are under development as of September 30, 2016, which is the most up-to-date information available.
- The IESO does not have any procurements currently underway for wind projects. The Large Renewable Procurement projects, announced in March 2016, are underway but have not yet been built.

Additional speaking points on future supply / market renewal

- Looking ahead, Ontario is now in a stable supply situation that is expected to continue until the mid-2020s, making this an opportune time to consider and implement needed market design changes, something that is actively being considered through the IESO's Market Renewal initiative.
- Market renewal is a collaborative effort between the IESO and stakeholders to pursue enhancements to Ontario's electricity market that will address inefficiencies and lay a foundation that will prepare us for the electricity sector of tomorrow.
- Market Renewal will include evolving the wholesale electricity market and adopting new procurement practices through the introduction of an incremental capacity auction to competitively and efficiently acquire resources.
- Cost savings are achieved through the better utilization of existing assets, greater competition among resources, a reduced need to build new resources, and a more flexible procurement process that will better reflect system needs.
- Early findings show potential for cost savings that are expected to be realized by both consumers and suppliers, with a preliminary baseline estimate of \$3.7 billion (net present value) over a ten year period from 2021-2030.
- The IESO will be educating and working with stakeholders on the key design concepts for the various initiatives throughout 2017. Timelines beyond 2017 have yet to be finalized and are subject to change based on design and implementation decisions to be made with stakeholders. We will send you link to our website with more information on market renewal.

From: John Cannella
Sent: March 15, 2017 10:50 AM
To: Mary Bernard; Jordan Penic
Cc: Andrew Dow
Subject: media inquiry--follow up--Wind and Gas Contracts---Bay Observer
Importance: High

See follow up Qs below from John Best of the Bay observer and my comments / proposed responses. I'll inquire about a deadline.

From: John Best [<mailto:john@bayobserver.ca>]
Sent: March 15, 2017 10:14 AM
To: John Cannella
Subject: Wind and Gas Contracts

John: Thanks for pointing me to these sources of information. I have a few supplementary questions:

1. Wind Power. I'm trying to put a total dollar cost to the aggregate of contracts now in effect. How do I convert the KWH price to the actual output which is measured in MW? In other words how much are we spending on wind power currently on an annual basis..

This is a bit of a loaded question. When asked how much we pay for a given resource, we've recently responded as follows and have provided the attached spreadsheet (spreadsheet includes totals we provided for 2015 AG report) to reporters to remain consistent with what's in the OPO and what's public. As an alternative, I could reach out to settlements to see what we paid for wind over the last few years.

We don't track this kind of information on an ongoing basis and it would take some time to get figures for 2015. We did provide a breakdown of generation cost by fuel type to the Auditor General for the 2015 annual report, however. This can be found on page 212 of the report (figure 5), which is available at this link:
<http://www.auditor.on.ca/en/content/annualreports/arreports/en15/3.05en15.pdf>.

We also provided a breakdown of the projected levelized unit energy cost per MWh by fuel type in the OPO. This can be found on page 32 of Appendix A of the report. Here is a link: <http://www.ieso.ca/Pages/Ontario%27s-Power-System/Ontario-Planning-Outlook/default.aspx>.

2. Gas We have a significant amount of gas generation capacity which is a back up for wind. How much are/have we paid for these plants. How are these private sector plants financed? Is it based on their potential output or is it a cost-plus basis? What is the rate we would pay if the gas plants were operating at capacity and the wind was a back up?

For his second Q, below is a response Darryl Yahoda provided us on how natural gas contracts are structured and financed for a request we received related to cap & trade. As for how much we've paid for these resources, the link above for the AG report does provide how much was paid for gas in 2014 but I'm not aware of more recent data. Perhaps settlements? For his last Q, does the OPO provide any analysis on the rate we would pay if the gas plants were operating at capacity and the wind was a backup?

The structure of most of the IESO's natural gas fired generator contracts are on a "capacity payment basis" – the facilities' contract payments are based on how many MWs are made available to the electricity system and not how much electricity they produce. The monthly determination of the contract payment includes running financial model that uses contract parameters and the natural gas and wholesale electricity prices for the settlement month to arrive at the "deemed net revenue" for the facility. This deemed net revenue is deducted from the base contract payment to establish the contract payment for the facility for the settlement month. The index used for the natural gas prices in the contracts will not include cap & trade compliance costs as they are

levied downstream by the natural gas distributors. The IESO is in negotiations with the natural gas generators to put in-place amendments, as appropriate, to various IESO contracts with natural gas generators that may include reflecting some or all of the increased costs of cap & trade compliance as part of the natural gas index price used for contract settlement. In concept this would maintain the levels of contract payments to pre-cap & trade amounts rather than increase them

3. The government recently announced a cut back on new wind contracts. Will there be any more wind contracts signed in the near future. Are there any contracts in the pipe that have been approved.

I presume we will have to wait and see what the new LTEP says about procuring additional wind generation. We can provide him with a breakdown of the LRP 1 contract offers, which are not yet in CO, as well as a breakdown of the number of wind projects that have reached NTP.

I appreciate your assistance.

Regards

John Best
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