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- maintenance level on OPG assets, improving reliability and reducing costs. They looked at best practices used by various industries and chose the "Streamlined Reliability Centered Maintenance" approach. OPG has renamed this Leading Edge Maintenance or (LEM).
2. Slide 11 shows the "net" energy production: the amount delivered to the IESO less the amount consumed by OPG to operate its facilities. The fluctuations shown on the graph cannot be explained by weather conditions alone, there are many factors that influence electricity production from hydro fleet.
 3. On slide 15, the figures are the "net" of SBG, this is the net energy produced by the facility. During SBG events, OPG would be required by the IESO to reduce hydroelectric production and in doing so would have had to spill water. For 2008 SBG events caused approximately 0.05-0.1TWh in lost production and in 2009 it was more, in a range of 0.25-0.3TWh.
 4. In regards to the bridge divesture, OPG has agreements where it says OPG must maintain the bridge and do something with the bridge at its end of life. There are four bridges in question in the test period (2011 to 2012). OPG has considered numerous options including to keep and maintain it, which creates a capital cost. Alternatively OPG can spend similar amounts to improve the bridge and negotiate with municipalities to take over the bridges. The only way Municipalities will take it is to transfer the bridge in a fully upgraded condition. OPG gives them the money to upgrade/replace the bridge. The reason that it is treated as base OM&A cost is because the bridge is not going to be OPG's asset going forward and it is expensed.
 5. The climate change research is being completed by a consulting group called QUARANOS and CEATI. They are working with other big utilities to look at environmental impact on watersheds. All the interested parties are investing in this and all are looking at the climate change impacts. Mazza was not sure if the group will be making all of their research public, he will have to follow up on this and perhaps confirm later. (Supplementary information is provided in section 6.2 of these notes.)
 6. In terms of the aging workforce, OPG does succession planning as a company on an annual basis; focusing on areas where the demographic is really aging to the point it needs to be replenished.
 7. The new GIS system is listed with the base OM&A. While some components to GIS systems have initial developmental capital costs, the major spending is in mapping and data input required to set-up the data base. The infrastructure cost is capital, but that has already been done.
 8. Regarding the DeCew Falls GS 1 project, a penstock is a big pipe that transports water from the intake of a facility, to the generator or turbine.

5.0 DESIGN OF PAYMENT AMOUNTS: HYDROELECTRIC — DAVID PETERSON (MANAGER, MARKET MONITORING, ENERGY MARKETS)

- 5.1 Slide 2 outlined that the Design of Payment Amounts: Hydroelectric presentation was to—
 - 5.1.1 Review Hydroelectric Incentive Mechanism (HIM)..
 - 5.1.2 Show how HIM has affected operating decisions.
 - 5.1.3 Explain the actual financial benefits of HIM to both OPG and OPG customers.

5.1.4 Review Water Transactions ("WT") and Segregated Mode of Operations ("SMO").

WT or Water Transactions are defined as volumes of water that are allocated to OPG through agreements, that OPG is unable to utilize for various reasons, and are then transferred to NYPA for their use, in return for certain financial benefits.

SMO or Segregated Mode of Operations occurs only at Saunders and occurs when OPG connects some its generators (up to 8) to the Quebec system to supply electricity to Quebec and through Quebec to others. In this mode, the generators are completely isolated from the Ontario system.

- 5.2 Slide 3 Peterson indicated that OPG is not proposing any changes to HIM from the last application. Consistent with the Board's decision, OPG has reviewed the effects of the HIM on operating decisions. The HIM appears to drive OPG to economically schedule production in periods where prices are attractive. It promotes OPG to shift water or energy from periods of low market value to high market value. Doing this will lower the Market Clearing Price ("MCP") in Ontario.
- 5.3 Slide 4 describes the formula for the Monthly Hydroelectric Payment Amount, which includes the Incentive Payment factor ((Hourly Net Energy Production minus Average Hourly Net Energy Production) x MCP). This incentive mechanism applies to all OPG production from prescribed hydroelectric assets, however the metrics that have been developed apply to the pump generating stations "PGS" for simplicity purposes and because the bulk of all the opportunity to utilize this mechanism lies at the PGS.
- 5.4 Slide 5 provided two examples of payment amounts based on different production and market clearing pricing scenarios.
- 5.5 Slides 6 and 7 served to demonstrate, by example, how the Incentive Mechanism can influence OPG's decision and maximize production during the on-peak hours.
- 5.6 Slide 8 presented OPG's view of the Financial Benefits estimates that the HIM has provided—
 - 5.6.1 For the Ontario Consumer—since December 1, 2008, the demand-weighted price has gone down by \$1.10 /MWh. This results from OPG actions increasing the off peak price because they consume pumping energy during that time and decreasing the on peak price because they generate added low cost electricity at that time. The decrease in on-peak prices far outweighs the slight increase in off-peak prices.
 - 5.6.2 For OPG—incremental revenues were \$23M, \$11M higher than forecast due to an increase in volume of energy time shifting and on/off peak price spread being greater than planned.
- 5.7 Slide 9 addressed the OPG proposal to adjust the net revenue offset calculation in the test period such that it will move from a 3-year actual revenue forecast to a 1-year annual revenue forecast, due to SMO and WT. The reason for this change is a significant decline in the SMO net revenues since the Hydro Quebec DC intertie came into place in July of 2009. That decline is expected to continue. OPG is proposing that the test period forecast be based upon annualized gross revenue for the period from July to December 2009. In terms of WT, net revenues are difficult to forecast for various reasons and OPG is proposing to base the forecast on the actual 2009 net revenues.
- 5.8 QUESTIONS

Peterson elaborated on the following points in response to stakeholder questions—

1. In reference to Ontario customer benefits on Slide 8, Peterson agreed that since consumers are exposed only to regulated rates they may not see the full and immediate impact of a change in the Market Clearing Price.
2. The SMO is not an incentive mechanism, it's more of a market mechanism, allowing OPG to disconnect up to eight units at Saunders and physically connect them to Hydro Quebec's system. Revenues from SMO are treated like ancillary revenues or non-energy related revenues to offset any costs of the segregated service to Quebec, and are included in the application as "Other Revenue Source".
3. Previously connections with Quebec were virtually impossible because of difficulty with synchronization, the only suitable source of Ontario power was through SMO. The new DC intertie allows electricity to be provided from various sources as long as it enters Quebec through the DC intertie. Quebec is buying from the market now, not specifically OPG.
4. The new HIM resulted from the last hearing. In response to a question about whether it has caused a significant change in the way that OPG manages these on peak, off peak adjustments, Peterson admitted that the operational changes are more incremental, but that it does provide clearer drivers to influence OPG actions. Peterson felt that OPG would still try to manage those benefits if there was no incentive.
5. The SMO facilities are not obsolete; they are generating energy for the Ontario market, but it is anticipated that their use in supplying Quebec will be less than in prior periods. The facilities used to supply Quebec are generating for Ontario, when not in use for Quebec.

LUNCH BREAK—11:30 AM - 12:15 PM

Betts welcomed everyone back from the lunch break and indicated that OPG had responses to the unanswered questions from the morning session.

6.0 AM SESSION QUESTION RESPONSES

- 6.1 Mazza verified that the original tunnels were above the Queenston shale and did not go through the shale formation.
- 6.2 Mazza also confirmed QUARANOS and CEATI are to be involved in studying climate change and the energy forecasts as discussed in his presentation. The Quaranos study will be posted on their website once it is completed. However the publication will be in French. Publications from CEATI are available at a cost, but the availability of this particular study is currently unclear.

Betts then introduced the first presenter in the afternoon portion of the meeting, Stu Seedhouse (Seedhouse).

7.0 NUCLEAR BUSINESS OVERVIEW — STU SEEDHOUSE (SVP, DARLINGTON GS)

- 7.1 The Nuclear Business Overview presentation was to—
 - 7.1.1 Provide OPG nuclear overview.
 - 7.1.2 Describe 2009 benchmarking initiative.
 - 7.1.3 Discuss 2010-2014 gap-based business plan.
- 7.2 Slide 2 provided 3 points as an overview of OPG's Nuclear operations—