ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act*, *1998*, S. O. 1998, C. 15, Schedule B;

AND IN THE MATTER OF an application by Ontario Power Generation Inc. pursuant to section 78.1 of the *Ontario Energy Board Act*, *1998* for an order or orders determining payment amounts for the output of certain of its generating facilities.

SUBMISSION OF THE INDEPENDENT ELECTRICITY SYSTEM OPERATOR ("IESO")

On September 27, 2013, Ontario Power Generation Inc. ("OPG") filed an application with the Ontario Energy Board (the "Board") under section 78.1 of the *Ontario Energy Board Act*, *1998*, S.O. 1998, c. 15, Schedule B seeking approval for increases in payment amounts for the output of its nuclear generating facilities and the currently prescribed hydroelectric generating facilities effective January 1, 2014. The application also seeks approval for payment amounts for the output of newly prescribed hydroelectric generating facilities effective July 1, 2014.

In Procedural Order No. 3, issued on February 19, 2014, the Board approved the final issues list for this proceeding. The IESO's submission is limited to the two issues pertaining to the hydroelectric incentive mechanism, namely:

5.3 Has the incentive mechanism encouraged appropriate use of the regulated hydroelectric facilities to supply energy in response to market prices?

5.4 Is the proposed new incentive mechanism appropriate?

Summary of the IESO's submission

The IESO supports maintaining an incentive mechanism for the previously regulated hydroelectric facilities and also applying it to certain newly regulated hydroelectric facilities.[1] Most of these facilities have significant time-shifting capabilities, especially the newly regulated

[1] OPG proposes that the incentive mechanism apply to the 21 newly regulated stations with modelled production forecasts, all of which are subject to IESO dispatch with the exception of Calabogie (a 5MW generating station on the Madawaska River).

hydroelectric facilities, which can provide a benefit to consumers. Time-shifting hydroelectric production from periods of low market price to periods of high market price benefits consumers by reducing the need to dispatch higher cost supply. Currently, these newly regulated hydroelectric facilities are completely exposed to the Hourly Ontario Energy Price ("HOEP") which means they have a very strong incentive to respond to market prices. The IESO supports maintaining a similarly strong incentive once these assets are rate-regulated.

In OPG's evidence and through further discovery during this proceeding, OPG indicated that under their proposal of a 50/50 consumer benefit sharing mechanism and the proposed enhanced Hydroelectric Incentive Mechanism ("eHIM"), OPG would not change how they operate their previously or newly regulated facilities. Under that premise, the IESO submits that OPG's proposed incentive mechanism is acceptable from a market efficiency perspective. Anything less than a 50/50 sharing of the incentive could reduce OPG's responsiveness to market prices resulting in less time-shifting and reduced consumer benefits.

Incentive Mechanisms

Historically, time-shifting incentives have influenced OPG's hydroelectric production to the benefit of Ontario consumers. Under Ontario Hydro, there was an objective to minimize the overall costs of their generation fleet. As Ontario Hydro owned all the generation in the province, Ontario Hydro could reduce its use of oil-fired or coal-fired generation on peak by time-shifting its hydroelectric generation, thereby lowering the overall cost paid by consumers.[2]

Since 2005, the payment structure for OPG's prescribed hydroelectric assets has included some form of incentive to link the use of peaking capability from the regulated facilities to market prices. OPG indicated that prior to 2005, there was little time-shifting in its Beck PGS operations.[3] Further, in their argument-in-chief in this proceeding, OPG stated:

> Absent an incentive mechanism, OPG's incentive would not be to follow market price signals, but instead to maximize production at the regulated rate which would result in a flatter production profile and higher revenues.[4]

In EB-2007-0905, OPG proposed, and the Board accepted, the Hydroelectric Incentive Mechanism ("HIM") as it exists today. In this application, OPG is proposing to make improvements to the current HIM by introducing the eHIM.

In recent history, the newly regulated hydroelectric facilities have been completely exposed to the HOEP. This effectively provided OPG with a 100% incentive to respond to market prices

[2] Oral Hearing Transcript, Volume 4, page 47
[3] Ibid, page 105-106
[4] Argument-in-chief, pages 59-60

and time-shift their generation. As illustrated in Exhibit K4.1 (see attached), when fully exposed to the HOEP, these newly regulated hydroelectric facilities have been very responsive to the market price. The IESO submits, for the efficiency of the wholesale electricity market and benefit to Ontario consumers, it is important that in operating these facilities OPG be effectively incented to time-shift and follow market prices in the same manner as they do today.

Enhanced Hydroelectric Incentive Mechanism ("eHIM")

In their evidence, OPG described the interaction between HIM and Surplus Baseload Generation (SBG). The eHIM is identical to the existing HIM and SBG Variance Account except that under the eHIM the entries in the SBG Variance Account would be adjusted to remove incentive revenues arising from SBG spill.[5]

Some intervenors suggested that the impact of the unintended incentive payments as a result of SBG spill could be negated by adding in the amount of SBG generation foregone to the actual production to get an "average monthly production compensated for SBG". The IESO submits that the IESO is not privy to information about the volume or hourly resolution of OPG's SBG spill[6] and that this method would unduly complicate the existing IESO and OPG settlements processes. An identical outcome can be achieved through a correction in the monthly SBG Variance Account entry as proposed by OPG's eHIM and as suggested by Board counsel during cross examination.[7]

The Need for a Strong Incentive

In their application, OPG is proposing to maintain a 50/50 sharing mechanism with ratepayers based on a forecast of customer benefits instead of based on the incentive revenues which is the current practice. In order to accomplish this, OPG is proposing to introduce an 'X-factor' to yield an incentive payment to OPG equal to 50% of the forecast customer benefit.[8] This results in an X-factor of 35% and 31% for 2014 and 2015, respectively, to translate a 50/50 sharing of consumer benefits to an incentive revenue basis.[9] The IESO takes no position on the change to the sharing mechanism from incentive revenues to customer benefit; the IESO's interest is in the magnitude of the sharing mechanism.

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[5] Exhibit E1, Tab 2, Schedule 1, page 12

[6] Exhibit L, Tab 5.3, Schedule 1 Staff-061. In addition, the IESO does not measure spill at the hydroelectric generating stations and does not have the means to distinguish when spill is a result of SBG or some other circumstance (e.g. water conveyance constraints, production capability constraints) as described in OPG's evidence (Exhibit E1, Tab 2, Schedule 1, page 3).

[7] Oral Hearing Transcript Volume 4, page 21-22

[8] Exhibit E1, Tab 2, Schedule 1, page 13

[9] Based on OPG's evidence, a 50/50 sharing of consumer benefits results in an $18 million incentive payment to OPG. Based on OPG's forecast time-shifting activity in 2014, the incentive payment under the existing HIM would result in a $51 million incentive payment. To scale the incentive payment down to OPG's proposed share of the consumer benefits, the incentive payment must be multiplied by a factor of 35%, the X-factor, to obtain the desired result.

The IESO is supportive of providing a strong financial incentive to OPG to time-shift their hydroelectric generation to follow market prices. OPG has indicated that with a greater incentive to follow the HOEP, it also allows OPG to take more risks with time shifting its facilities[10] which results in additional benefit to ratepayers such as increased export revenues that offsets global adjustment[11]. The IESO submits further that an appropriate incentive mechanism for the newly regulated hydroelectric facilities will help support operational flexibility.

OPG's proposed incentive revenue sharing mechanism is a reduced incentive for OPG to time-shift their newly regulated hydroelectric facilities as compared to what currently exists (OPG's proposal of 35% and 31% of incentive revenues for 2014 and 2015, respectively vs OPG effectively receiving a 100% incentive today). The IESO submits that from a market efficiency and operational perspective, a 100% incentive would provide the strongest incentive for OPG to respond to market prices and time-shift their generation.

However, OPG indicated that the previously regulated hydroelectric facilities which are currently exposed to a 50/50 incentive revenue sharing mechanism also follow the market price very well and to the best of their ability[12] (this claims is supported by exhibit K4.1 which illustrates the price responsiveness of the currently prescribed hydroelectric facilities). In addition, OPG indicated that the 50/50 proposal that OPG put forward will provide them with a sufficiently strong incentive that OPG would operate their newly regulated hydroelectric facilities in the same manner as they do today.[13] The IESO submits that OPG's proposal for a 50/50 sharing mechanism based on consumer benefits is an acceptable incentive that OPG should receive. Under a lesser incentive, it is unknown how OPG's response to market prices (and the resulting time-shifting activity) will change.

Alternatives Considered

OPG assessed three alternatives to the existing HIM:

1. The eHIM as proposed by OPG in this application;
2. A modified version of the Hydroelectric Baseload Forecast; and
3. An Incentive Mechanism based on a fixed market price exposure.

OPG indicated during the oral hearing that the 2nd and 3rd alternatives do not mimic market conditions nearly as well as the current HIM or the proposed eHIM. Under these alternatives, there would be less of an incentive for OPG to time-shift their generation and, ultimately, less of

[10] Oral Hearing Transcript Volume 4, page 35
[11] Oral Hearing Transcript Volume 4, page 25
[12] Oral Hearing Transcript Volume 4, page 32
[13] Ibid, page 37

a benefit for ratepayers.[14] As a result, the current HIM and eHIM are preferred incentive mechanisms over the alternatives presented.

Conclusion

The IESO supports maintaining an incentive mechanism for the previously regulated hydroelectric facilities and also applying an incentive mechanism to the newly regulated hydroelectric facilities as proposed by OPG. Most of these facilities have significant time-shifting capabilities, especially the newly regulated hydroelectric facilities, which can provide a benefit to consumers. An appropriate incentive mechanism for the newly regulated hydroelectric facilities will help support the continued operational flexibility which these assets currently provide.

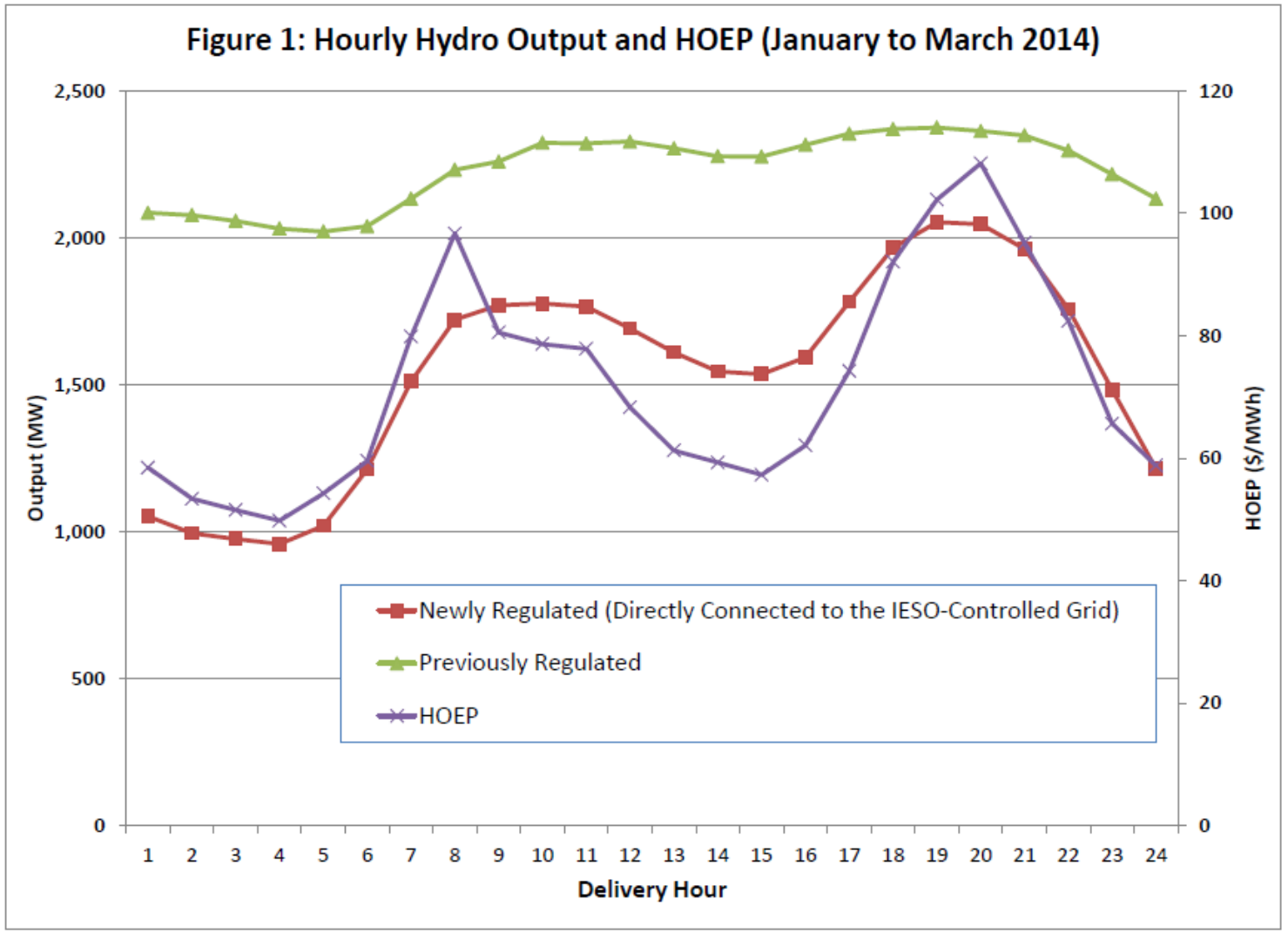
The current HIM has encouraged appropriate use of the previously regulated hydroelectric facilities to supply energy in response to market prices. However, the current HIM can be further improved as there is currently an unintended interaction between the current HIM and SBG as OPG has indicated. The IESO submits that the proposed eHIM is an improvement relative to the existing HIM because it would incent OPG to respond to market prices and time-shift their generation as they do today while removing unwarranted incentive revenues arising from SBG spill.

Regarding the benefits sharing mechanism, OPG has indicated that under their proposed 50/50 sharing of consumer benefits, they will operate their regulated hydroelectric facilities in the same manner as they are operated today. Under that premise, the IESO submits that this is an acceptable financial incentive for OPG to maintain their responsiveness to market prices.

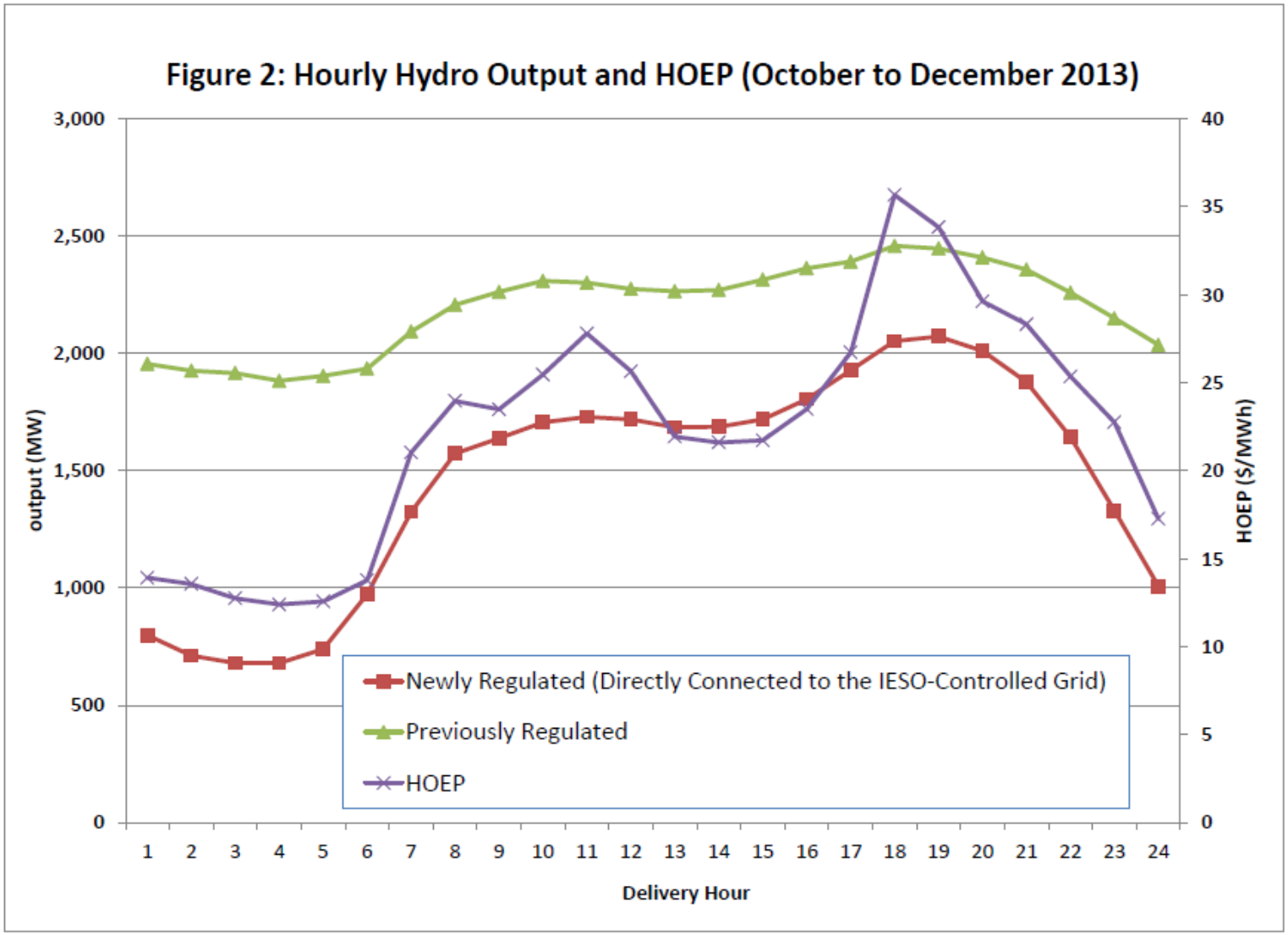
All of which is respectfully submitted this 26th day of August, 2014.

[14] Oral Hearing Transcript Volume 4, pages 38-39

Appendix A – Exhibit K4.1 Hourly Hydro Output and HOEP



Source: From the IESO's website - Generator Output and Capability Report and Hourly Ontario Energy Price (HOEP) Report



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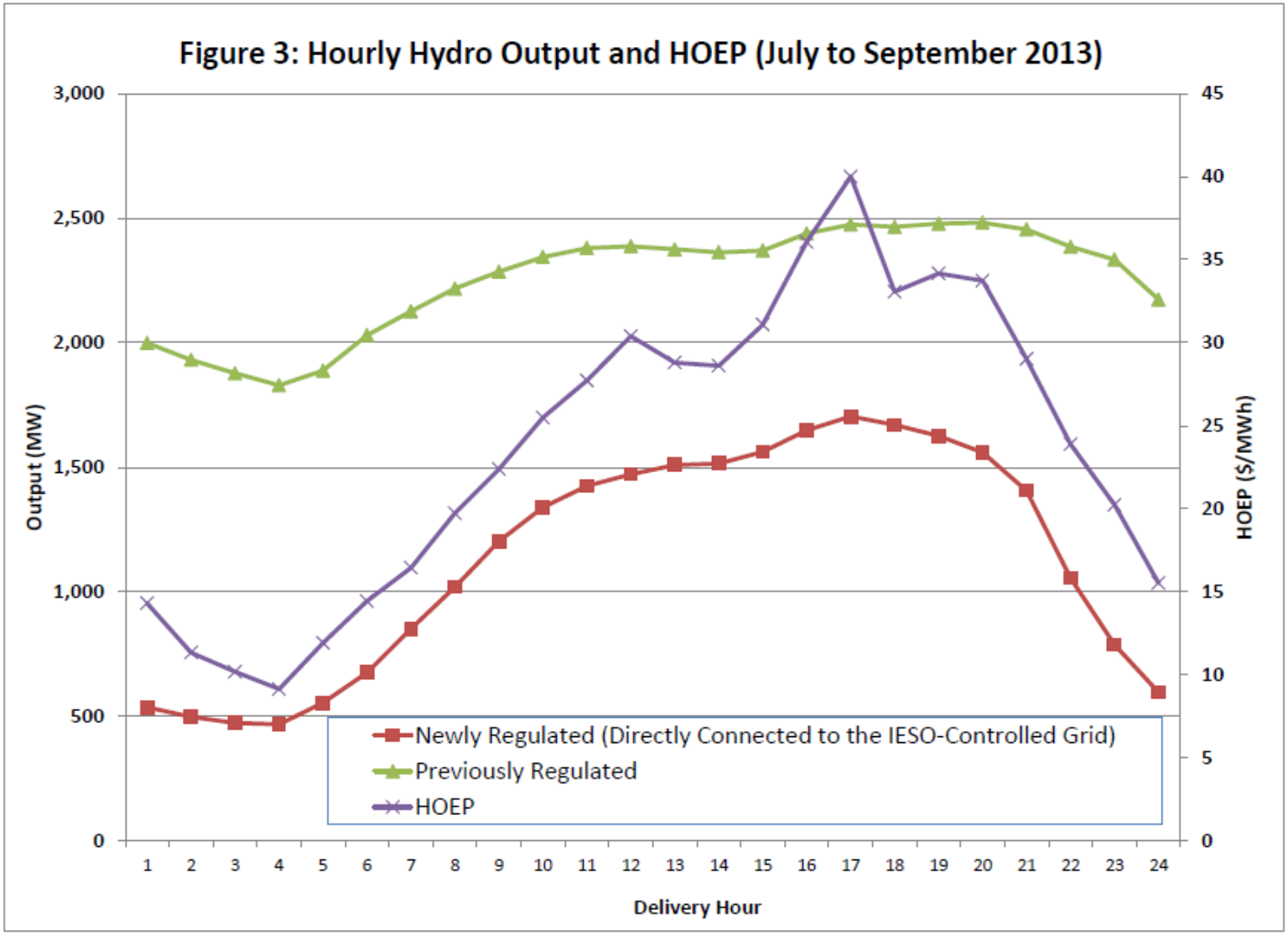

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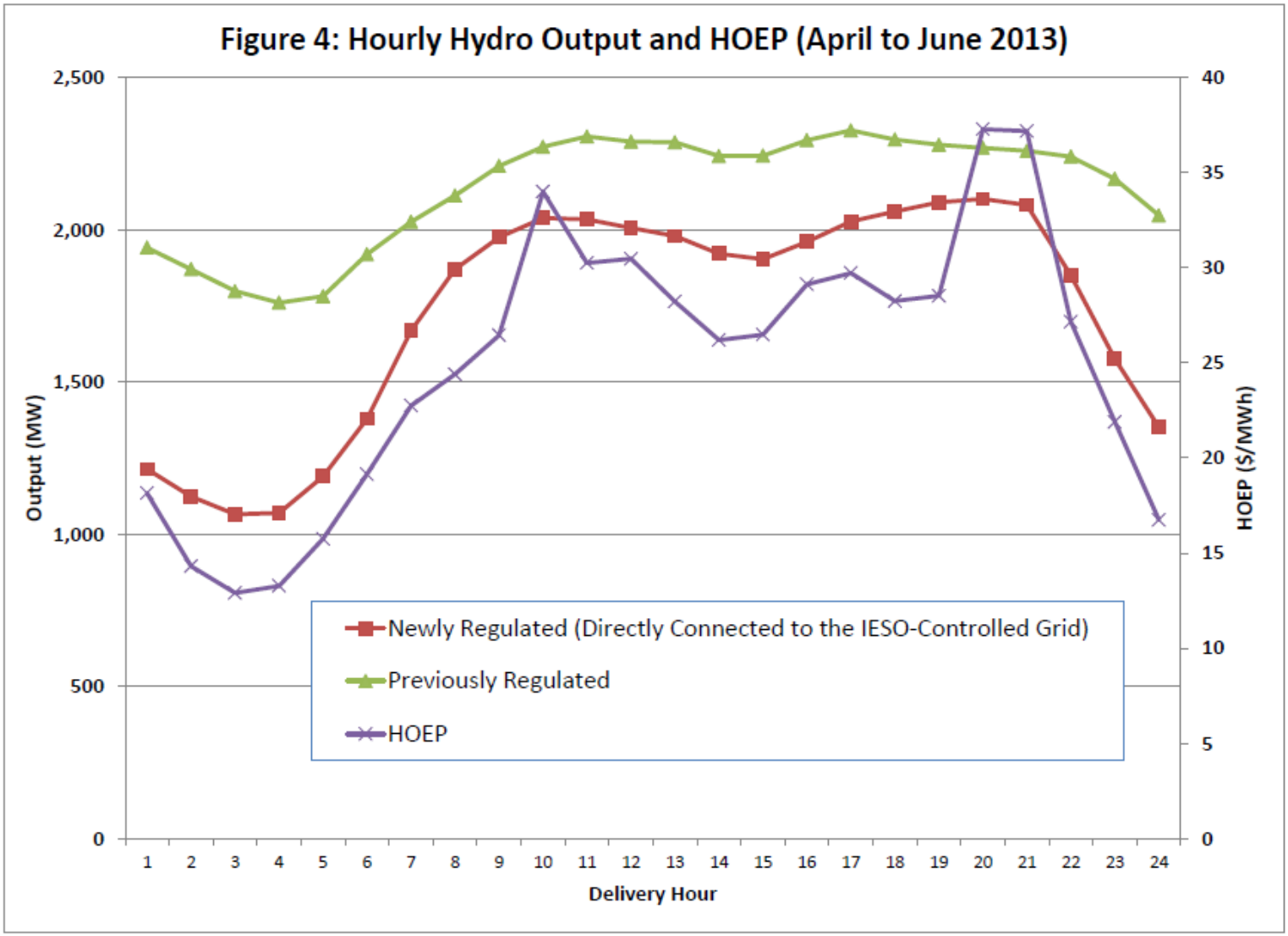

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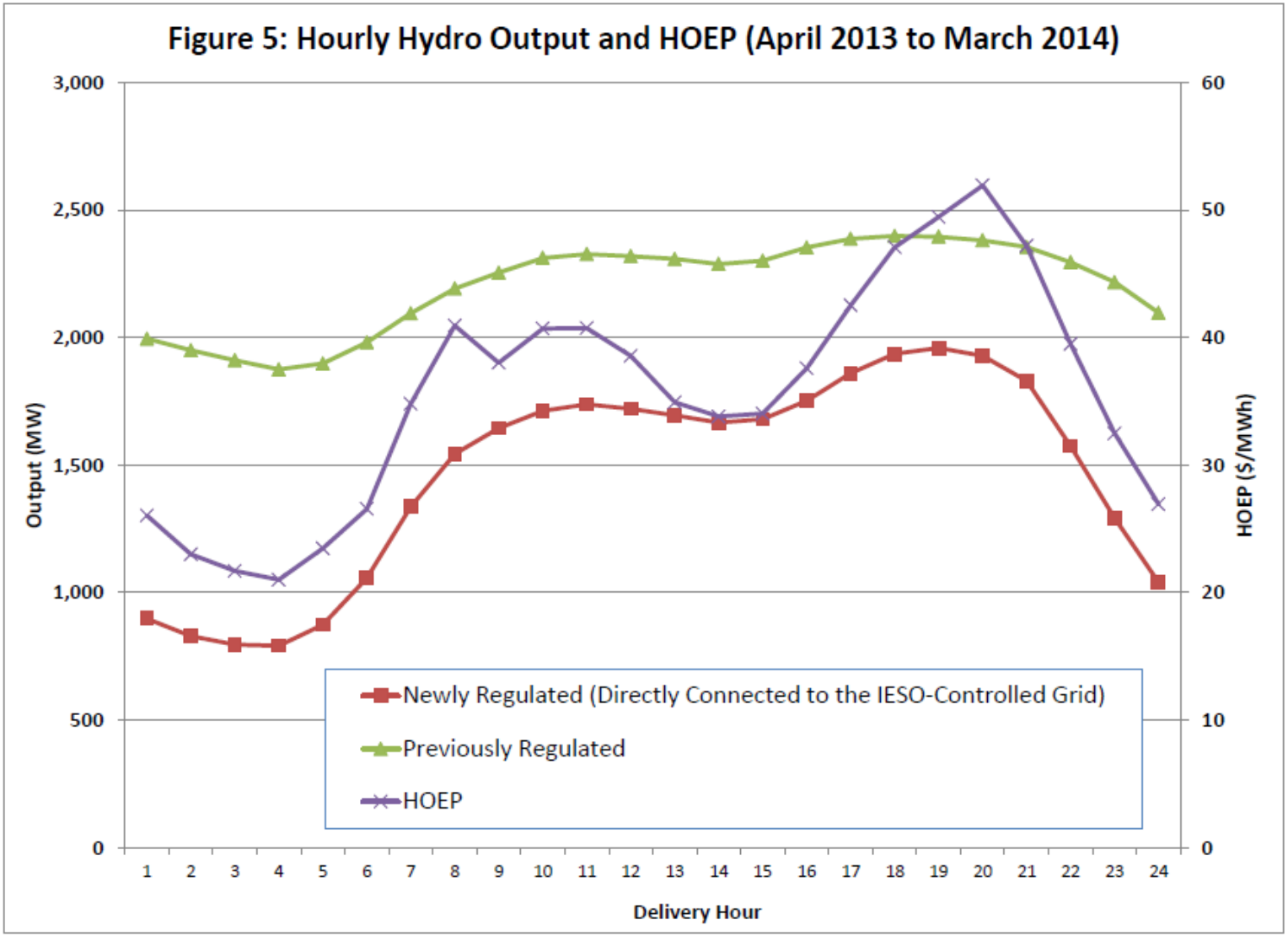

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