SCHOOL ENERGY COALITION

CROSS-EXAMINATION MATERIALS

OPG PANEL 9

SEC Interrogatory #039

Ref: Ex. G2-T2-S1, page 38

Issue Number: 7.3
Issue: Are the test period costs related to the Bruce Nuclear Generating Station, and costs and revenues related to the Bruce lease appropriate?

Interrogatory

The evidence states that OPG and Bruce Power reached an agreement that effectively binds Bruce Power to renewal of the Bruce Lease beyond 2018. It also states that OPG agreed not to seek a base rent increase resulting from the increase in the estimated cost of decommissioning the Bruce A and B stations.

a) Please provide the increase costs of decommissioning.

b) Please provide the financial analysis/study that was undertaken to support the decision to make this agreement.

c) Please provide the internal memorandum that we provided to OPG senior executives in support of the decision to extend the Bruce Lease.

Response

a) The revised decommissioning cost estimate for the Bruce stations, as determined in the review undertaken in 2006, was $1,237M (2001 dollars present value). This represented an increase of $212M over the initial decommissioning cost estimate of $1,025M (2001 dollars present value).

b) The requested financial analysis is provided in Attachment 1. The decommissioning liability cost estimate decreases as Bruce Power continues to operate the plant beyond 2018, thus extending the decommissioning date. The attached financial analysis includes the following:

   - An updated decommissioning liability cost estimate for each year beyond 2018 with the decommissioning liability estimate shown to decline over time as the decommissioning date is extended.

   - Illustration that the updated decommissioning liability declines to the original 2001 level between the years 2027 and 2028.

c) No internal memorandum was provided to OPG senior executives.

shutdown date	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
2001 PV $M																			
Original Bruce lease	1,025																		
Bruce Total	1,237	1,213	1,189	1,166	1,143	1,121	1,100	1,079	1,058	1,038	1,018	999	980	961	943	926	908	892	875
Bruce A	606	594	582	571	560	549	539	529	518	509	499	490	480	471	463	454	446	437	429
Bruce B	631	619	607	595	583	572	561	550	539	529	519	509	499	490	481	472	463	454	446
Variances																			
100% variance	212	188	164	141	118	96	75	54	33	13	(7)	(26)	(45)	(64)	(82)	(99)	(117)	(133)	(150)
50% variance	106	94	82	71	59	48	37	27	16	6	(4)	(13)	(23)	(32)	(41)	(50)	(58)	(67)	(75)
2007 PV $M																			
Bruce Total	1,711	1,677	1,644	1,612	1,581	1,550	1,521	1,491	1,463	1,435	1,408	1,381	1,355	1,329	1,304	1,280	1,256	1,233	1,210
Bruce A	838	821	805	790	774	760	745	731	717	703	690	677	664	652	640	628	616	605	594
Bruce B	873	856	839	823	807	791	776	761	746	732	718	704	691	677	665	652	640	628	616

	Actual CPI	real discount	discount rate	discount indices
2001	3.10%	3.25%	6.35%	1.06
2002	2.00%	3.25%	5.25%	1.05
2003	2.70%	3.25%	5.95%	1.06
2004	1.90%	3.25%	5.15%	1.05
2005	2.20%	3.25%	5.45%	1.05
2006*	1.90%	3.25%	5.15%	1.05

*projected

	Guarantee requirements										
2006	14.78										
2007	30.33										
2008	46.67										
2009	63.85										
2010	81.92										
2011	100.92										
2012	120.90										
2013	141.90										
2014	163.99										
2015	187.22										
2016	211.64										
2017	237.32										
2018	264.32	234	205	176	148	120	93	67	41	16	(9)
2019	246.15										
2020	226.19										
2021	204.29										
2022	180.35										
2023	154.22										
2024	125.76										
2025	94.84										
2026	61.27										
2027	24.91										
2028	-14.43										

So the last area I want to talk about is, let's start by looking at tab 9 of our book of materials. Now, this is excerpts from your year-end report for 2009; right? You can see that on the first page.

MR. PETERSON: Yes. Sorry, yes.

MR. SHEPHERD: And this is like a formal public disclosure of the material facts associated with OPG; right? That's the nature of the document?

MR. PETERSON: Yes.

MR. SHEPHERD: So if you would look at the bottom of the pages, there's a page marked "24" at the bottom. Can you turn to that?

MR. PETERSON: Yes, I have that here.

MR. SHEPHERD: And this is headed up at the top "Discussion of operating results by business segment." And you see here it says, under "Revenue," it says, regulated hydroelectric is 782 million for 2009. Do you see that?

MR. PETERSON: Yes, I do.

MR. SHEPHERD: So that was your total revenues for the regulated hydroelectric facilities for 2009?

MR. PETERSON: Yes, that's correct.

MR. SHEPHERD: And it would include your other revenues that we've just been talking about?

MR. PETERSON: I believe it would.

MR. SHEPHERD: Okay. And so now I wonder if you could go to page 29, which is the next page in these excerpts. Do you have that?

MR. PETERSON: I do.

MR. SHEPHERD: And you see at the top of the page, it says "regulated generation sales." Now, that figure, 718 million, that's actually the amount you got paid for what you generated; right?

MR. PETERSON: Honestly, I'm not overly familiar with this document, and I believe it would be, but I couldn't absolutely confirm a...

MR. SHEPHERD: Okay. Well, hopefully you'll be able to correct the record if it turns out that this is not the case or the finance panel will consider it later.

MR. SMITH: Well, I suppose then that means we proceed one of two ways. I mean, the questions either get asked to the finance panel, who can absolutely address questions relating to the content of the annual report and the financial statements presented therein, which I think would be appropriate, or we go through the potential of examination in-chief dealing with answers given by this panel to correct, if necessary, those -- I would have thought the easier thing to do would be to put the questions directly to the finance panel.

MR. SHEPHERD: The problem, Madam Chair, is that, is that the only place where I can get the information on the other revenues, the external information, is the financial report. But the only person I could ask questions about the other revenues is sitting here now. And so I'd rather proceed, and if it turns out that I run into a brick wall, then we can reconsider, if that's acceptable to the panel.

MS. CHAPLIN: Yes, that's acceptable.

exhibit includes five years of the plan.
MR. SHEPHERD: I knew it would be something simple. So that 1.7 million is basically your 2014 number?
MR. LEAVITT: Yes.
MR. SHEPHERD: Okay. Then you have a third line, "Additional savings," which is $252 million over those four years. It is actually more than your targeted reductions.
If you look at note 3 below, the biggest chunk of that is: "Impact of lower labour burden rate," $172.7 million.
Can you tell us what that is?
MR. LEAVITT: Each year, we receive a burden rate from corporate business planning to be applied to the labour rate, basically, for the staff that had been built into the plan.
This reflects the delta or the change associated with that new rate. I can't speak to its derivation.
MR. SHEPHERD: So this is -- I will ask more detailed questions on the finance panel, I assume, but just let me understand a bit, because it is the biggest number on your chart here.
This is -- is this something that is a shift between capital and operating? Or is it a reduction in the corporate costs that you are having to bear?
MR. LEAVITT: It is not a shift between operating and capital.
MR. SHEPHERD: No?
MR. LEAVITT: This would be -- and it is not really a corporate cost. It is a cost associated with the labour in

the nuclear plan.

MR. SHEPHERD: All right. I will follow up with another panel, thanks.

Then you have: "Impact of new labour rates." Is this a contract that you have signed that is going to save you money?

MR. LEAVITT: New labour rates were received. I can't speak to the contractual arrangements that gave us those, those new rates. I think the corporate business planning panel would be best able to speak to those.

MR. SHEPHERD: They just gave you a new number. It was lower, and so that saves you money?

MR. LEAVITT: There were many changes in labour rates.

MR. SHEPHERD: Well, okay. Yes, new numbers. And they saved you money?

MR. LEAVITT: Yes.

MR. SHEPHERD: Okay. Then the last one is: "SAVHO reallocation to capital projects." What's that?

MR. LEAVITT: Prior to this plan, the costs for vacation and sickness associated with capital projects had been -- had been accumulated in an OM&A account, consistent with policy.

In this year, it was decided that those would be shifted to the capital projects for which the work was being performed.

MR. SHEPHERD: So this is -- this is an increase to the amount capitalized?

MR. LEAVITT: It would represent an increase. No

MR. ELLIOTT: But that's not to say we can get all of that value out of the remaining 537.

MR. SHEPHERD: That's great.

MR. MILLAR: J5.4.

UNDERTAKING NO. J5.4: TO PROVIDE ESTIMATE OF VALUE OF SURPLUS INVENTORY OF HEAVY WATER12.

MR. SHEPHERD: Then let me understand how you account for heavy water. When you acquire it, there's a cost. You actually acquire it by producing it; right? You make it?

MR. ELLIOTT: We did, but a very long time ago, and we don't produce it anymore. We've stopped production.

MR. SHEPHERD: Exactly. You have what you produced then?

MR. ELLIOTT: Yes.

MR. SHEPHERD: So when you acquired it, you put it into rate base in effect, what is now rate base; that is, you put it into your fixed assets, right?

MR. ELLIOTT: The -- what we've done is certainly the water that's used to produce electricity is in the asset rate base. You know, the water in the reactors used to make electricity is in there. It was in there and still is in there.

MR. SHEPHERD: Is in rate base?

MR. ELLIOTT: Correct.

MR. SHEPHERD: But it's fully depreciated?

MR. ELLIOTT: Fully depreciated.

MR. SHEPHERD: So it's in rate base, but the value is zero?

MR. ELLIOTT: Certainly this -- this surplus, yeah, the value is zero, so...

MR. SHEPHERD: Well, that's not what I'm asking. Is the value of the heavy water that's in your reactors zero in rate base? And the reason I ask that is I looked at your rate base continuity schedules, and I didn't see anything at the level of granularity that would show me the heavy water number. And so I...

MR. MAUTI: I'm comfortable that the value of the surplus heavy water is fully depreciated and zero. I'd have to go back and check as to the value of the in-service heavy water in our reactors. We do distinguish between the two, obviously, the ones that you are in our reactors that are used for generation purposes.

MR. SHEPHERD: I'm probably going to ask you for an undertaking on that, but let me just take the next step and see whether I can figure this out.

We couldn't find a detailed rate base continuity that sets your rate base down by the various types of assets. And so, instead, we went to your tax tables, because that has CCA classes, right, tax tables?

And so if you look at page 24 of our materials first, you'll see that there's a class 26, a tax class, an ITA class 26. Do you have that page there? And right at the bottom of the page, you'll see it says class 26, 5 percent. Do you have that?

MR. MAUTI: Yeah. I have it here.

MR. SHEPHERD: And you'll see that that includes heavy water acquired after May 22nd, 1979. Did you produce your heavy water before 1979?

MR. ELLIOTT: The heavy water was still being produced into the nineties.

MR. SHEPHERD: Wonderful. Okay, so -- and then I went to your prefiled evidence to -- and this is pages 25, 26 and 27 of our materials. You'll see those tables are your CCA tables for your tax returns. Do you have those?

MR. MAUTI: Yes, we do.

MR. SHEPHERD: And there's a column that says "Class". That's the CCA class, and I looked for class 26, because that would be your heavy water, and I didn't see it anywhere. So I assume that means -- and tell me whether this is correct. I assume that means that you have no amount for heavy water currently, at least in your undepreciated capital costs for tax purposes, and I presume that also means that you have no heavy water in your rate base currently?

MR. KEIZER: Well, Mr. Shepherd, it may be - sorry to interrupt - be best to put the question relating to the CCA and the rate base to the finance and business process panel. It's, I think -- panel 9, I think, what it is now, but I'm not quite sure where it is going to be scheduled -- where it actually has within it rate base, and it also deals with tax matters, as well.

MR. SHEPHERD: Well, but I'm asking about heavy water. I'm trying to figure out whether you have any heavy water in rate base today. I mean, either you do or you don't.

MR. KEIZER: And I think that panel will deal -- has all the rate base matters and can address the issue of rate base and what's in it and what's not in rate base.

MR. SHEPHERD: My difficulty, Madam Chair, is that I want to ask about non-energy revenues, which is this panel, and to do that I need to know whether we have a zero amount in rate base or a bigger amount in rate base.

And I guess I can operate on the assumption that it will be zero, and then if I'm wrong, we'll see what to do then.

So I'm going to assume that all your heavy water is fully depreciated to zero, and if that turns out to be incorrect, we'll deal with it later.

If it's fully depreciated, that means - tell me if this is right - that you have recovered the entire cost of it in rates; is that right?

MR. MAUTI: The value of the surplus heavy water, which is part of non-energy revenues, I can confirm has no value. It's been fully depreciated. That happened prior to the beginning of rate-setting for OPG and prior to even the commencement of the interim rate period for OPG.

MR. SHEPHERD: Understood. That's not what I'm asking. I'm asking who paid for it. And I take it that since your only revenue is from ratepayers, that ratepayers ultimately paid all of that; is that right?

MR. MAUTI: Well, it would have, again, happened before rate-setting purposes, so I'm not sure what you mean by ratepayers. In the context of OPG's regulatory position? It all happened prior to 2005, so that's why I'm having trouble understanding when you say it went through rates.

MR. SHEPHERD: Let me ask the question a different way, because I don't want to make a big deal out of it. I just want to make sure I understand.

Aside from revenue from ratepayers, prior to 2005, did you have any other revenues?

MR. MAUTI: Apart from other non-energy revenues or other revenues that OPG would have earned? I'm not exactly clear of the context of the question.

MR. SHEPHERD: I'm trying to understand whether you had any other source of money to pay for the heavy water that's been fully depreciated.

MR. MAUTI: Well, the payment for the actual fabrication of the heavy water happened decades ago. The asset value that was related to it that's related to the surplus heavy water was written down zero at least, I think, about ten years ago, I believe it was. So that was around the -- you know, the turn of the century.

So the write-off of it and who paid for that, as part of the write-off, I'm not clear what it means.

MR. SHEPHERD: Okay. I'm going to ask this question, understanding that you probably won't be able to answer it, but then it will be sort of warning for your finance panel, I think. Did any part of the costs of the heavy water get shifted to Ontario Electricity Financial Corporation when the stranded debt was shifted over to them? Do you know?

MR. MAUTI: I wouldn't be in a position to know how that allocation was done at the wind-up of Ontario Hydro.

MR. SHEPHERD: Thanks. I'll follow up, but that's panel 9; right?

MR. MAUTI: I believe it is 9, yes.

MR. SHEPHERD: Thanks. So you do expect to have some heavy water sales in 2011/2012?

MR. ELLIOTT: We do.

MR. SHEPHERD: And do you have a forecast of that?

MR. ELLIOTT: We have an internal forecast. I don't have that with me here today.

MR. SHEPHERD: And that would be a confidential --

MR. ELLIOTT: It would.

MR. SHEPHERD: -- forecast; right? Is it possible to provide that in confidence?

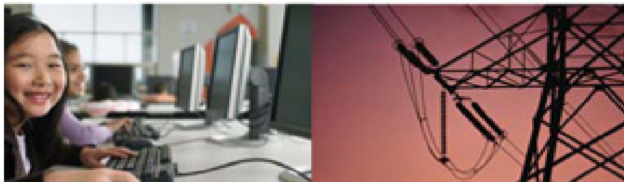
MR. ELLIOTT: It is.

MR. MILLAR: J5.5.

UNDERTAKING NO. J5.5: TO PROVIDE INTERNAL FORECAST OF HEAVY WATER SALES FOR 2011/2012.

MR. SHEPHERD: So then I want to turn to another area, and that is nuclear fuel costs. And I was here, and I have since read the transcript. So it does sound like yesterday was all fuel costs at all time, so I'm not going to repeat everything that was dealt with yesterday, but I do want to understand a couple of things.

First, let me understand this process. You talked about this cycle that can take several years, sometimes, from the time you buy uranium until the time it ends up in



ONTARIO POWER AUTHORITY

August 2010

OPA Cash Flows from the Global Adjustment Mechanism (GAM)

GAM Definition and Financial Reporting

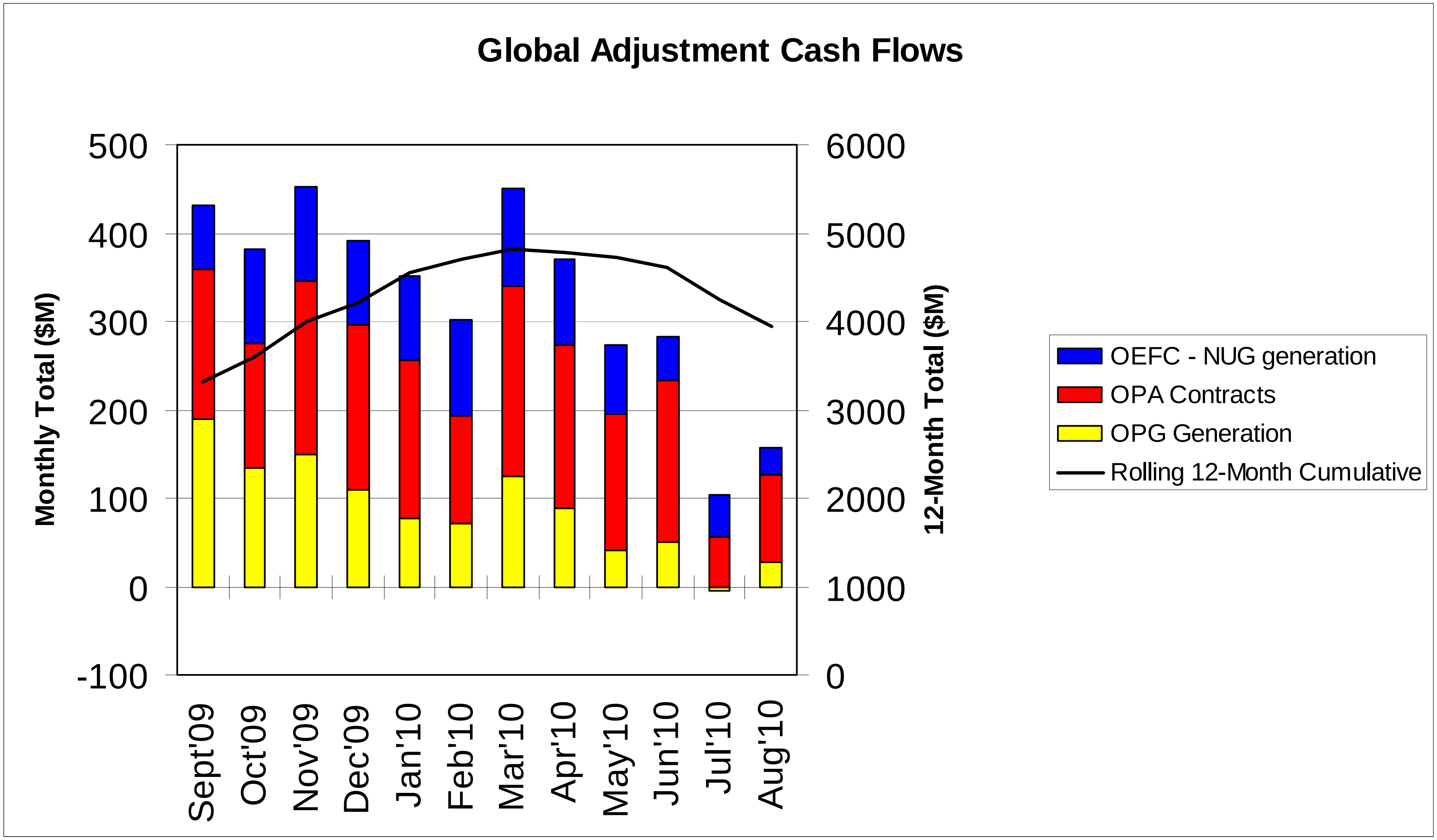
- The Global Adjustment (GA) is the difference between the total payments made to certain contracted or regulated suppliers of electricity and conservation services and any offsetting revenues they receive from sales to customers

- The GA is calculated by taking into account the payments made for the following functions:
  - Non-utility generation (NUG) contracts established by the former Ontario Hydro and now administered by the Ontario Electricity Financing Corporation (OEFC);
  - Nuclear generation operated by Ontario Power Generation (OPG);
  - Certain "prescribed" hydroelectric generation owned by the OPG (plants in Niagara Falls, St. Catharines and Cornwall);
  - Generators and suppliers of conservation services contracted to the OPA.

- The OPA has responsibility for the financial reporting of the Global Adjustment.

Ontario Power Authority

GAM Cash Flows - 12 Months from September 2009 to August 2010



Positive values indicate charges to customers, negative values indicate credits

3

GAM Cash Flows in $000's

GAM Cash Flows in $000's

	Sept'09	Oct'09	Nov'09	Dec'09	Jan'10	Feb'10	Mar'10	Apr'10	May'10	Jun'10	Jul'10	Aug'10	12 Month
Payments to suppliers													
OEFC - NUG generation	$72,423	$106,637	$106,323	$95,037	$96,837	$108,904	$111,227	$97,725	$77,119	$49,727	$47,382	$30,957	$1,000,298
OPG Generation	189,865	133,445	148,629	109,067	77,479	71,568	124,143	89,435	41,361	50,826	(5,335)	27,802	$1,058,285
OPA Contracts	168,818	142,605	197,556	186,388	177,965	121,717	215,754	183,930	154,747	181,882	56,800	98,976	$1,887,138
Total:	**$431,105**	**$382,687**	**$452,508**	**$390,491**	**$352,282**	**$302,189**	**$451,125**	**$371,090**	**$273,227**	**$282,435**	**$98,847**	**$157,735**	**$3,945,722**
Weighted average HOEP $/Mwh	**$22.10**	**$30.33**	**$27.59**	**$35.98**	**$38.25**	**$36.43**	**$28.76**	**$31.71**	**$40.39**	**$41.58**	**$54.29**	**$46.75**	

Components of the GAM Cash Flow Table

OPA Contracts

- **OPA Standard Offer Program**
  - Contract prices for small scale distributed generation are generally higher than HOEP
  - Monthly cash flow varies with the number of contracts and generation volume

- **OPA Hydroelectric Contracts**
  - Contract prices are generally higher than HOEP
  - Monthly cash flows vary according to the number of contracts and generation volume

- **OPA Feed-In Tariff Program**
  - Contract prices are generally higher than HOEP
  - Monthly cash flows vary according to the number of contracts and generation volume

- **Other OPA Generation**
  - Contract prices are generally higher than HOEP
  - Monthly cash flows vary according to generation production timing and volume, and gas prices where applicable

- **OPA Conservation**
  - Contracts reflect a payment of costs (e.g. not related to HOEP) to contractors
  - Monthly cash flows reflect timing of reporting/invoicing

- **OEFC - NUG generation**
  - Contract prices are generally higher than HOEP
  - Monthly cash flows are affected primarily by HOEP

- **OPG Generation**
  - Have a prescribed rate that could be above or below HOEP from month to month
  - Value of the cash flow is a function of volume and timing of generation

Explanation of Variances

- The cost of electricity is recovered through a combination of GA and the Hourly Ontario Energy Price (HOEP). HOEP and GA are inversely related. For example, if HOEP increases, GA decreases and vice versa.

- GA payments are affected when new supply starts. For example: in the second quarter of 2010, payments for additional energy supply from Lennox Generating Station began.

- With each new contract for conservation and supply, the cost of electricity and GA may increase.