

ONTARIO ENERGY BOARD STAFF INTERROGATORIES

Smart Meters – Interrogatory 1

Reference: Appendices 6-B and 6-C

Is the Smart Meter / Load control component of the forecast shown in Appendix 6-C, in the amount \$90,000, additional to Public Awareness Campaign in the amount \$250,000 shown in Appendix 6-B (table attached to paragraph 9)?

Response:

Yes.

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Smart Meters – Interrogatory 2

Please provide the unit costs assumed in the Smart Meter program, distinguishing if applicable between start-up costs and on-going costs.

Response:

The rollout of the 2006 Smart Meter Residential Program assumes an initial start-up cost of \$5.4 million (approximately \$36 per unit) and an ongoing cost of \$214 per installed meter.

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Standby Charges – Interrogatory 1

Has Toronto Hydro considered that the level of the Standby Charge, being equal to the Distribution Charge for electricity actually consumed, may have a discouraging effect on the growth of efficient and necessary generation in its service territory?

Response:

The underlying principle for THESL's proposed Standby Charge is cost causation and the equitable treatment of all customers. It is not intended to encourage or discourage independent generation. The distribution system facilities reserved for customers' backup power requirements are no different from the distribution system facilities used for the supply of firm power. Both uses represent identical capacity requirements of the distribution system. Therefore THESL believes that there should be no difference between distribution rates and standby rates.

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Standby Charges – Interrogatory 2

Has Toronto Hydro considered that the ratchet design in the Backup Overrun Adjustment provision may have a discouraging effect on the growth of efficient and necessary generation in its service territory?

Response:

THESL has based its standby charges on cost causation. Accordingly, the charge is intended to reflect the costs imposed by the customer on THESL's system. To that end, the ratchet charge methodology is intended to ensure that co-generation customers do not understate their true standby power requirements. THESL believes that rates should continue to reflect the cost of serving customer classes, including standby customers.

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Standby Charges – Interrogatory 3

References: Tab 1 Appendix 1-A, Tab 2 Schedule 2-4, and

Tab 10 pages 6 – 10 of 11, and Tab 10 Appendix 10-D

- (a) Toronto Hydro's application refers to "independent generation facilities" (Tab 10 paragraph 26), "parallel generation" (paragraph 27), "load displacement facility" (paragraphs 28 and 32). Please clarify the situations that the Standby Charges proposed in Tab 1 Appendix 1-A would apply to, and which situations the charges would not apply to.
- (b) Would the Standby Charges be applicable in any way to situations where the customer might occasionally supply electricity into the system?
- (c) Toronto Hydro's application refers to the existing charges as "Cogeneration Standby / Backup" (Schedule 2-4, p. 3 of 6). The policy paper (Appendix 10-D) refers to "Parallel Generation". Please clarify the situations that the existing charges and policy apply to, and which situations are not applicable.

Response:

- (a) The proposed Standby Charge is applicable where a generation unit is installed for load displacement purposes and where the customer has

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Standby Charges – Interrogatory 3

requested Standby Power from THESL in the event that the generator goes out of service.

- (b) The Standby Charge is applied to the amount of distribution system capacity that is contracted for by the customer in the event the customer's generator goes out of service. This is independent of whether or not the customer may at times supply power back into the system at times of low consumption.

- (c) The existing Standby Charges apply to customers with generation units (also referred to as "Cogeneration Standby/Backup" and "Parallel generation"), installed for load displacement purposes and where the customer has requested standby capacity.

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Standby Charges – Interrogatory 4

References: References Tab 1-A and Tab 2 Schedule 2-4

- (a) Please confirm that the application is for approval, for customers up to 1000 kW with interval meters, to increase the Standby Charge to \$5.23 per kVA per month from the current levels that range from \$1.60 to \$3.36.
- (b) Please confirm that the application is for approval, for customers from 1000 kW to 5000 kW, to increase the Standby Charge to \$4.38 per kVA per month from the current levels that range from \$1.60 to \$3.36.
- (c) Please confirm that the application is for approval, for customers over 5000 kW, to increase the Standby Charge to \$3.74 per kVA per month from the current levels range from \$1.00 to \$1.34.
- (d) Has Toronto Hydro analyzed the likely bill impact on customers in any of the size ranges for a typical month or year from the increases outlined in parts a – c?

Response:

(a) Yes.

(b) Yes.

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Standby Charges – Interrogatory 4

(c) Yes.

(d) As of September 2005, there are only five customers with existing Standby Charges. Individual bill impact analyses were conducted with the results ranging between 1% and 7% on the overall bills.

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Standby Charges – Interrogatory 5

Please provide data on the amount of Standby or Backup service provided by Toronto Hydro during the period 2002 – 2004.

Response:

Toronto Hydro provided a total monthly Standby capacity of 20,100 kW to five customers throughout the period 2002 to 2004.

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Standby Charges – Interrogatory 6

Please provide information on the amount of administrative effort that has been required for the Standby/Backup Charge during the period 2002 – 2004.

- (a) If possible, provide the information in the form of the Handbook Schedule 11-2. (Information from some of the Offices would be acceptable, but the total cost across all Offices would be preferable.)
- (b) Please provide additional information on the one-time cost of setting up a new contract for Standby service, including typical cost of engineering studies, initial communication with the customer, and other non-recurring costs that may be identified.

Response:

- (a) Currently the former North York Hydro, Toronto Hydro and York Hydro, Standby Charges are approved. Each of the Standby customers in the former utilities has different rates and administrative requirement.
 - Two customers in the former North York Hydro require monthly analysis of the hourly metering data to determine if standby power was utilized. This analysis determines if the Standby Charges need to be manually calculated and entered into the billing system.

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Standby Charges – Interrogatory 6

- Two customers in Toronto are charged a seasonal monthly backup charge. The metering data is reviewed annually to establish the number of downtime hours for the entire year. From this THESL determines the amount of adjustments to make to the billed Standby charges.
- For the one customer in the former York Hydro, a system operator in THESL's System Control maintains an operation log of the generator's downtime. In the original tripartite agreement (Ontario Hydro, York Hydro and customer), the customer is required to inform the utility when the co-generation operation stops and when it is resumed. That log is used to calculate the monthly standby demand charges against the utility monthly peak demand. As of September 2004 the customer has informed THESL that the co-generation unit is no longer operational.

In all cases, once the monthly Standby Charges have been calculated, the values are manually entered into the billing system.

THESL does not record administrative costs of billing the current Standby Charges from the three former utilities.

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Standby Charges – Interrogatory 6

- (b) THESL has not recorded the one-time costs in evaluating and setting up customers with co-generation units.

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Standby Charges – Interrogatory 7

Reference: Tab 10 paragraph 31

Please explain how the revenue from the current rates is reported in the application, in particular clarifying whether there is currently an administration charge reported as a customer charge.

Response:

Revenue from the proposed \$200 monthly administration charge is reported in pre-filed evidence Schedule 11-3 under Standby/Backup Monthly Administrative Charge. Revenue from standby charges is included in distribution revenues.

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Standby Charges – Interrogatory 8

Reference: Appendix 10-D

- (a) To assist in understanding the examples on pages 6-9 of 9, please provide examples of monthly bills based on the rates proposed by the applicant for 2006, corresponding to the three peak day load profiles in Examples 1 - 3. Include illustrative amounts of monthly energy delivered, so that the effect of the Large User rate, loss factors, Retail Transmission Service rates and any other applicable charges may be understood, along with the effect of the Standby Charge and Standby Administration Charge. With respect to Example 2, ensure that the meaning of the footnote to the illustration is clear.
- (b) Please include an example corresponding to Example 4 in Appendix 10-D, to illustrate Backup Overrun as described at Tab 10 page 8 of 11 paragraph 29.
- (c) Please provide an example to illustrate a situation of Backup Overrun as it would apply over several months, as described at Tab 10 paragraph 30 (p. 9 of 11).

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Standby Charges – Interrogatory 8

Response:

- (a) Please refer to Tab 1 Schedule 10 Attachments 1-3 for examples 1-3.
- (b) Please refer to Tab 1 Schedule 10 Attachment 4 for example 4.
- (c) Please refer to Tab 1 Schedule 10 Attachment 4 for example 4.

Example 1

If in any particular month, the generator is fully operational with no downtime, the customer will pay the Standby Facilities Charge in addition to the regular monthly distribution charges.

Contract Backup Demand	2,000 kVA
Peak Metered Demand	5,000 kVA
Metered kWh	3,250,000 kWh
Billed kWh	3,310,450 kWh
(Generation on the entire month with no downtime)	

Standby Monthly Charges:

Distribution Charge	= 5000 kVA * applicable class distribution rates
Standby Facilities Charge	= 2000 kVA * applicable Standby Facilities rates
Administration Charge	= \$200

2006			
	Proposed		
	Rates	Units for Billing	Monthly Bill
Monthly Customer Charge	\$ 2,902.06 *	1	\$ 2,902.06
Distribution Charge	\$ 3.74 *	5,000	\$ 18,700.00
Rate Rider	\$ 0.07 *	5,000	\$ 350.00
Transmission (Network and Transformation)	\$ 4.30 *	5,000	\$ 21,477.50
WMS/RRA	\$ 0.0062 *	3,310,450	\$ 20,524.79
Energy	\$ 0.0550 *	3,310,450	\$ 182,074.75
Standby Administration Charge	\$ 200.00 *	1	\$ 200.00
Standby Facility Charge	\$ 3.74 *	2,000	\$ 7,480.00
			\$ 253,709.10

Example 2

If the Parallel Generator is not operational during the entire billing month, the customer is assumed to have used the Standby Facilities and to have paid for the reserved capacity through the regular distribution charges.

Contract Backup Demand	2,000 kVA
Peak Metered Demand	6,500 kVA
Metered kWh	4,225,000 kWh
Billed kWh	4,303,585 kWh

Standby Monthly Charges:

Distribution Charge	= 6500 kVA * applicable class distribution rates
Standby Facilities Charge	= NO CHARGES
Administration Charge	= \$200

2006			
	Proposed		
	Rates	Units for Billing	Monthly Bill
Monthly Customer Charge	\$ 2,902.06 *	1	\$ 2,902.06
Distribution Charge	\$ 3.74 *	6,500	\$ 24,310.00
Rate Rider	\$ 0.07 *	6,500	\$ 455.00
Transmission (Network and Transformation)	\$ 4.30 *	6,500	\$ 27,920.75
WMS/RRA	\$ 0.0062 *	4,303,585	\$ 26,682.23
Energy with 65% LF First Block	\$ 0.0550 *	4,303,585	\$ 236,697.18
Standby Administration Charge	\$ 200.00 *	1	\$ 200.00
Standby Facility Charge	\$ 3.74 *	-	\$ -
			\$ 319,167.21

The footnote in example 2 was intended for example 3 and 4 to indicate the box area of the profile when the co-generation unit is off line.

Example 3

In months during which the generator is operational part of the time, the customer will be billed for Standby Facilities Charge based on the instantaneous difference between the metered kVA with generation running and the metered kVA without generation running, presuming peak demand is not established at another time during the billing month.

Contract Backup Demand	2,000 kVA
Peak Metered Demand with generation on	6,000 kVA
Peak Metered Demand with generation off	7,500 kVA
Metered kWh	3,900,000 kWh
Billed kWh	3,972,540 kWh

Standby Monthly Charges:

Distribution Charge	=	7500 kVA * applicable class distribution rates
Standby Facilities Charge	=	2000 – (7500-6000) = 500 kVA * applicable Standby Facilities rates
Administration Charge	=	\$200

	2006 Proposed Rates	Units for Billing	Monthly Bill
Monthly Customer Charge	\$ 2,902.06 *	1	\$ 2,902.06
Distribution Charge	\$ 3.74 *	7,500	\$ 28,050.00
Transmission (Network and Transformation)	\$ 0.07 *	7,500	\$ 525.00
Transmission	\$ 4.30 *	7,500	\$ 32,216.25
WMS/RRA	\$ 0.0062 *	3,972,540	\$ 24,629.75
Energy	\$ 0.0550 *	3,972,540	\$ 218,489.70
Standby Administration Charge	\$ 200.00 *	1	\$ 200.00
Standby Facility Charge	\$ 3.74 *	500	\$ 1,870.00
			\$ 308,882.76

Example 4

Standby Facilities Charge based on the instantaneous difference between the metered kVA with generation running and the metered kVA without generation running, assuming peak demand is not established at another time during the billing month.

- Assumptions:**
- Name Plate Value is 2,500 kVA (The backup overrun cannot exceed the the co-generation unit name plate values)
 - Contract Backup Demand is 2,000 kVA

<u>Month 1</u>	Contract Backup Demand	2,000 kVA
	Peak Metered Demand with generation on	6,000 kVA
	Peak Metered Demand with generation off	8,500 kVA
	Metered kWh	3,900,000 kWh
	Billed kWh	3,972,540 kWh

Standby Monthly Charges:

Distribution Charge	= 8500 kVA * applicable class distribution rates	
Standby Facilities Charge	= 2000 – (8500 – 6000) = 2000 – 2500 =	0 kVA (Zero if negative)
Administration Charge	= \$200	
Backup Overrun	= (8500- 6000) - 2000	= 500 kVA (C) subject to applicable backup overrun re-billing

Month 1	2006 Proposed Rates	Units for Billing	Monthly Bill
Monthly Customer Charge	\$ 2,902.06 *	1	\$ 2,902.06
Distribution Charge	\$ 3.74 *	8,500	\$ 31,790.00
Rate Rider	\$ 0.07 *	8,500	\$ 595.00
Transmission (Network and Transformatio	\$ 4.30 *	8,500	\$ 36,511.75
WMS/RRA	\$ 0.0062 *	3,972,540	\$ 24,629.75
Energy	\$ 0.0550 *	3,972,540	\$ 218,489.70
Standby Administration Charge	\$ 200.00 *	1	\$ 200.00
Standby Facility Charge	\$ 3.74 *	-	\$ -
			\$ 315,118.26

Month 2	Contract Backup Demand	2,000 kVA
	Peak Metered Demand with generation on	6,000 kVA
	Peak Metered Demand with generation off	8,000 kVA
	Metered kWh	3,900,000 kWh
	Billed kWh	3,972,540 kWh

Standby Monthly Charges:

Distribution Charge	= 6000 kVA * applicable class distribution rates	
Standby Facilities Charge	= 2000 – (8000 – 6000)	= 2000 – 2000 = 0 kVA (Zero if negative)
Administration Charge	= \$200	
Backup Overrun	= (8000- 6000) - 2000	= 0 kVA (D) (Zero if negative) subject to applicable backup overrun re-billing

2006			
Month 2	Proposed Rates	Units for Billing	Monthly Bill
Monthly Customer Charge	\$ 2,902.06 *	1	\$ 2,902.06
Distribution Charge	\$ 3.74 *	8,000	\$ 29,920.00
Rate Rider	\$ 0.07 *	8,000	\$ 560.00
Transmission	\$ 4.30 *	8,000	\$ 34,364.00
WMS/RRA	\$ 0.0062 *	3,972,540	\$ 24,629.75
Energy	\$ 0.0550 *	3,972,540	\$ 218,489.70
Standby Administration Charge	\$ 200.00 *	1	\$ 200.00
Standby Facility Charge	\$ 3.74 *	-	\$ -
			\$ 311,065.51

Month 3 Contract Backup Demand 2,000 kVA
 (Like Example 1) Peak Metered Demand with generation on 6,000 kVA
 Metered kWh 3,900,000 kWh
 Billed kWh 3,972,540 kWh
 (Generation on the entire month with no downtime)

Standby Monthly Charges:

Distribution Charge = 6000 kVA * applicable class distribution rates
 Standby Facilities Charge = 2000 – (6000 – 6000) = 2000 – 0 = 2000 kVA
 Administration Charge = \$200
 Backup Overrun = (6000- 6000) - 2000 = **0 kVA (E)** (Zero if negative)
 subject to applicable backup overrun re-billing

2006			
Month 3	Proposed Rates	Units for Billing	Monthly Bill
Monthly Customer Charge	\$ 2,902.06 *	1	\$ 2,902.06
Distribution Charge	\$ 3.74 *	6,000	\$ 22,440.00
Rate Rider	\$ 0.07 *	6,000	\$ 420.00
Transmission	\$ 4.30 *	6,000	\$ 25,773.00
WMS/RRA	\$ 0.0062 *	3,972,540	\$ 24,629.75
Energy	\$ 0.0550 *	3,972,540	\$ 218,489.70
Standby Administration Charge	\$ 200.00 *	1	\$ 200.00
Standby Facility Charge	\$ 3.74 *	2,000	\$ 7,480.00
			\$ 302,334.51

Month 4	Revised Contract Backup Demand	2,500 kVA	(B)
	Peak Metered Demand with generation on	6,000	kVA
	Metered kWh	3,900,000	kWh
	Billed kWh	3,972,540	kWh
	(Generation on the entire month with no downtime)		

Standby Monthly Charges:

Distribution Charge	=	6000 kVA * applicable class distribution rates	
Standby Facilities Charge	=	2500 – (6000 – 6000)	= 2500 – 0 = 2500 kVA
Administration Charge	=	\$200	
Backup Overrun	=	(6000- 6000) - 2500	= 0 kVA (Zero if negative)
Backup Overrun Rebill	=	500 kVA * 3 months	= 1,500 kVA
		(the highest of C, D and E)	

2006			
Month 4	Proposed Rates	Units for Billing	Monthly Bill
Monthly Customer Charge	\$ 2,902.06 *	1	\$ 2,902.06
Distribution Charge	\$ 3.74 *	6,000	\$ 22,440.00
Rate Rider	\$ 0.07 *	6,000	\$ 420.00
Transmission	\$ 4.30 *	6,000	\$ 25,773.00
WMS/RRA	\$ 0.0062 *	3,972,540	\$ 24,629.75
Energy	\$ 0.0550 *	3,972,540	\$ 218,489.70
Standby Administration Charge	\$ 200.00 *	1	\$ 200.00
Standby Facility Charge	\$ 3.74 *	2,500	\$ 9,350.00
Backup Overrun	\$ 3.74 *	1,500	\$ 5,610.00 (A)
			\$ 309,814.51

Note: (A) Backup Overrun values is based on the difference between the first month incremental demand of 2500 (8500 - 6000) kVA with co-generation off and the 2000 kVA contract backup amount. This is adjusted for the 3 months (quarter).
 (B) The Contract Backup demand is revised to reflect the new amount in the new quarter.

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Standby Charges – Interrogatory 9

Reference: Tab 10

Toronto Hydro rejects the Handbook Schedule 10-6 on the basis that it yields site-specific standby rates (paragraph 34).

- (a) Please support the view that Schedule 10-6 produces site-specific charges, as distinct from “applicant-specific” charges.
- (b) Please explain the relevance of the dense urban environment to the feasibility of using Schedule 10-6.

Response:

- (a) Schedule 10-6 can be used to identify specific facilities costs and directly assign these to each individual customer. With five customers there is the potential of this to produce five different standby charges.

On the other hand, even if all five customers’ standby distribution costs are pooled this would still be inconsistent with the overall distribution rate allocation methodology. Both the current fixed and variable distribution rates are based on a pooling-by-rate-class concept. In addition, with the pooling of the five standby customers, the costs and allocation change with every entry and exit of customers from that pool, thereby potentially

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Standby Charges – Interrogatory 9

creating significant swings in the cost allocation depending on the standby requirement and location. This is not desirable from the rate stability perspective.

THESL's proposal is neither a site specific nor customer pool methodology, but rather is a rate class approach.

- (b) THESL has approximately 233 stations comprised of transmission-connected stations and distribution-connected stations. THESL has over 1,600 feeders (connected to these stations) at voltages varying from 27.6kV, 13.8kV and 4.16kV, with a total estimated circuit length of approximately 20,000 km.

Determining specific distribution assets for specific generation sites would be a time-consuming exercise that would require THESL to obtain data and details from a variety of sources, and then carefully filter, sort and analyze the data for accuracy, relevance and impact to both the generator and utility. Schedule 10-6 of the 2006 EDR Handbook is more suited for distribution systems that can clearly identify the specific distribution assets being utilized

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Standby Charges – Interrogatory 9

for standby services and is not suited for a dense distribution system environment.

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Standby Charges – Interrogatory 10

Reference: Tab 10

The costing methodology appears to assume that additional distribution capacity in the full amount of the Contract Demand is required as the Standby Facility (paragraph 26).

- (a) Would the outcome of the analysis be altered (and the resulting proposed rates be lower) if some degree of diversity amongst the backup service and the loads of neighbouring customers were assumed?
- (b) Would the outcome of the analysis be altered if the backup service can be provided from facilities that are underutilized or not used at all for other purposes (e.g. became stranded assets when the load displacement generation was installed)?

Response:

- (a) Diversity is shared among all customers in the rate class. In THESL's 2006 EDR filing, the standby load has been included in the 2006 forecast kVA and that reduces the allocated costs per kVA for that class of customer.
- (b) The outcome of the analysis would be the same regardless of whether or not backup service could be provided from under-utilized facilities. This is

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Standby Charges – Interrogatory 10

because the distribution system facilities reserved for customers' backup power is no different from the distribution system facilities reserved for firm power. For example, the distribution rate for a customer would be the same regardless of whether power is being provided from facilities that are under-utilized or from facilities that are near capacity. In other words, because the distribution system has been built and put into service to meet all customers' demands, it is irrelevant from a cost causation perspective whether the facilities are subsequently under-utilized whether for supply of backup power or firm power.