# Kingston Hydro Corporation
# 2012 Smart Meter Cost Recovery
# EB-2012-0310

## Board staff Interrogatories

### 1. Ref: Application, section 2.1.14 – Meter Base Repairs

On page 9 of the Application, Kingston states that it repaired about 80 customer meter bases, representing 0.003% of the smart meter population. On page 10, Kingston states that labour and associated costs were tracked in Account 1555 and materials were tracked in Account 1556 and expensed.

a) Please confirm that 80 meter bases represents about 0.3% of the smart meter deployment of 26,385 to residential and GS < 50 kW customers.
b) Please identify where the capitalized and expensed costs are documented on sheet 2 of the Smart Meter Model, version 3.00. If these are not shown separately from other costs, please provide a table that documents each of capitalized and expensed costs related to meter base repairs, by year and in total.

### 2. Ref: Sheet 2 "Smart_Meter_Costs" (1.1.1 Smart Meters)

On sheet 2 of the Smart Meter Model (1.1.1. Smart Meters), Kingston does not document any smart meter capital costs for the year 2011, despite installing 477 residential and GS < 50 kW smart meters in that year and showing $229,779 for installation charges in that year.

a) Please explain the reason for $0 documented.
b) If the costs for the procurement of smart meters installed in 2011 is documented elsewhere, please explain where.
c) If these costs are included in the procurement costs in earlier years, please explain the rationale for factoring these costs in the determination of the rate base and deferred revenue requirement prior to the smart meters being deployed and coming into service.
d) If necessary, please update the Smart Meter Model.

### 3. Ref: Application, Page 14 and Smart Meter Model, Sheet 2 – 2013 Capital Costs

In Table 4.1 and in row 42, "1.1.1 Smart Meters", Kingston forecasts $153,000 for smart meters in 2013. However, Kingston states that it has completed the smart meter deployment, and no forecasted installations are shown in row 42.

a) Please provide detailed explanation of the $153,000 of forecasted smart meter capital costs for 2013.
b) If the $153,000 is forecasted as smart meter expenditures for 600 new meters, as described on page 12 of the Application, this works out to $255 per meter.
    1. Please confirm or correct this forecasted cost per meter.
    2. Please explain the derivation of this forecasted cost per meter, and explain any variation in the installed cost per meter for smart meters deployed from 2009 to 2012.in rows 42 and 44 of sheet 2.

**4. Ref: Smart Meter Model, Sheet 2 – Smart Meter Costs**

a) Kingston documents $1,276,224 for smart meter costs (i.e. procurement costs) and $89,563 for installation costs, both for the year 2009, on rows 42 and 44 of sheet 2. However, rows 25 and 27 show no smart meters actually deployed in 2009. Please explain the costs documented in 2009.
b) Kingston documents 477 meter installations in 2011, and capital installation costs of $229,779, but shows no capital costs for smart meter capital (i.e. procurement costs for smart meters) in that year. Please explain the absence of smart meter costs in 2011.

**5. Ref: Application, page 12 – 2013 Costs**

On page 12 of the Application states:

> It is anticipated that approximately 600 meters per year will be required for new services and as replacements for malfunctioning meters. Our AMI provider has advised us that a hardware upgrade of the Advanced Metering Control Computer (AMCC) known as a Regional Network Interface will be required in 2013.

a) Please provide Kingston's estimate of the number of new residential and GS < 50 kW services (i.e., due to customer growth) that are forecasted for 2013.

b) Please confirm that the forecasted upgrade for the AMCC for 2013 corresponds with the $120,000 capital cost documented in cell U64 of Sheet 2 of the Smart Meter Model. In the alternative, please identify the costs.
c) The initial hardware capital costs for the AMCC were $120,584 in 2010, with additional costs of $6,000 in 2011 and $10,000 in 2012. The $120,000 forecasted for 2013 is almost equal to the initial costs in 2010. Please provide further details in support of the forecasted $120,000 for AMCC hardware capital investments in 2013.

**6. Ref: Sheet 2 "Smart_Meter_Costs" (1.6.3 Costs for TOU rate implantation, CIS system upgrades, web presentation, integration with the MDM/R, etc.)**

On sheet 2 of the Smart Meter Model, Kingston documents capital costs beyond minimum functionality in row 105 "1.6.3. Costs for TOU rate implementation, CIS system upgrades, web presentation, integration with the MDM/R, etc." of $47,257.

Please provide a further description of these capital costs.

**7. Ref: Smart Meter Model, Sheet 2 – Professional Fees**

Kingston documents $86,195 under "1.5.3 Professional Fees" on row 86 of Sheet 2 of the Smart Meter Model. These fees were incurred from 2009 to 2011. Please provide a further explanation of the nature of these costs, including identification of the providers of the services for which these costs were incurred.

**8. Ref: Smart Meter Model, Sheet 2 "Smart_Meter_Costs" (2.1.2 Other Labour and Security/2.2.1 Maintenance)**

On Sheet 2 of the Smart Meter Model, Kingston has forecasted for 2013 a total of $169,830 for 2.1.2 other labour and has increasing expenses for 2.2.1 maintenance.

a) Please explain the OM&A expenses documented under "2.1.2 other labour" for year 2013. Also explain whether this is a one-time expense or recurring cost.

b) Please explain the increasing OM&A expenses under "2.2.1 Maintenance" for the period from 2010 to 2013 inclusive. Also explain whether these costs are one-time or recurring.

**9. Ref: Smart Meter Model – Taxes/PILS Rates**

Kingston has input the following rates for taxes/PILS rates on Sheet 3 row 40, for the years 2006, 2007, 2008, 2009, 2010, 2011, 2012, and beyond. These are summarized in the following table:

| Taxes/PILS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Year | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| Aggregate Corporate Tax Rate | 36.12% | 36.12% | 33.50% | 33.00% | 27.38% | 21.00% | 26.25% | 25.50% |
| Capital Tax (until July 1st, 2010) | 0.30% | 0.225% | 0.225% | 0.225% | 0.075% | 0.00% | 0.00% | 0.00% |

Please confirm that these are the tax rates corresponding to the taxes or PILS that underpins distribution rates in each of the historical years, and that Kingston forecasts it will pay in 2012 and 2013. In the alternative, please explain the tax rates input and their derivation.

**10. Ref: Sheet 3 "Cost_of_Service_Parameters" (Cost of Capital Parameters) and Kingston_RRWF_Evidence Update_2010204 (A. Data_Input_Sheet)**

Kingston has input the following cost of service parameters on Sheet 3, for the years 2006, 2007, 2008, 2009, 2010, 2011, 2012 and 2013. These are summarized in the following table:

| Year | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|
| Deemed Short-term Debt Rate | | | | 0.00% | 0.00% | 2.46% | 1.33% | 1.33% |
| Long-term Debt Rate (actual/embedded/deemed)[2] | 6.57% | 6.57% | 6.57% | 6.57% | 6.57% | 5.01% | 5.87% | 5.87% |
| Target Return on Equity (ROE) | 9.0% | 9.00% | 9.00% | 9.00% | 9.00% | 9.58% | | |
| Return on Preferred Shares | | | | | | | | |
| WACC | 7.79% | 7.79% | 7.70% | 7.62% | 7.54% | 6.74% | 3.34% | 3.34% |

Board staff notes that the long-term debt rate and ROE used in 2006 to 2010 (inclusive), correspond with the parameters approved in Kingston's 2006 EDR application [RP-2005-0020/EB-2005-0385] and that the cost of capital parameters for 2011 correspond with what was approved in Kingston's 2011 cost of service application [EB-2010-0140].

a) Please explain Kingston's cost of capital parameters of 1.33% short-term debt, 5.87% long-term debt and 0% ROE for each of 2012 and 2013, and why these differ from the cost of capital parameters.

approved in Kingston's most recent cost of service application for 2011.

b) If necessary, please update the Smart Meter Model to reflect the relevant cost of capital parameter values.

| | | Data Input | | | | | | | | | (1) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Initial Application | | | | | (7) | | | Per Board Decision | |
| 1 | **Rate Base** | | | | | | | | | | |
| | Gross Fixed Assets (average) | $49,850,935 | | ($770,725) | | $ 49,080,210 | | | | $49,080,210 | |
| | Accumulated Depreciation (average) | ($16,983,278) | (5) | $40,752 | | -$ 16,942,526 | | | | ($16,942,526) | |
| | Allowance for Working Capital: | | | | | | | | | | |
| | Controllable Expenses | $6,980,907 | | $102,734 | | $ 7,083,641 | | | | $7,083,641 | |
| | Cost of Power | $61,518,323 | | ($67,773) | | $ 61,450,550 | | | | $61,450,550 | |
| | Working Capital Rate (%) | 15.00% | | | | 15.00% | | | | 15.00% | |
| 2 | **Utility Income** | | | | | | | | | | |
| | Operating Revenues: | | | | | | | | | | |
| | Distribution Revenue at Current Rates | $9,540,655 | | $10,120 | | $9,550,775 | | | | | |
| | Distribution Revenue at Proposed Rates | $12,174,156 | | ($32,454) | | $12,141,702 | | | | | |
| | Other Revenue: | | | | | | | | | | |
| | Specific Service Charges | $268,031 | | $0 | | $268,031 | | | | | |
| | Late Payment Charges | $37,901 | | $0 | | $37,901 | | | | | |
| | Other Distribution Revenue | $105,546 | | $0 | | $105,546 | | | | | |
| | Other Income and Deductions | $213,847 | | $58,271 | | $272,118 | | | | | |
| | Operating Expenses: | | | | | | | | | | |
| | OM+A Expenses | $6,850,907 | | $102,734 | | $ 6,953,641 | | | | $6,953,641 | |
| | Depreciation/Amortization | $2,042,875 | | ($30,660) | | $ 2,012,215 | | | | $2,012,215 | |
| | Property taxes | $130,000 | | $ - | | $ 130,000 | | | | $130,000 | |
| | Capital taxes | $0 | | | | $0 | | | | | |
| | Other expenses | $ - | | $ - | | 0 | | | | $0 | |
| 3 | **Taxes/PILs** | | | | | | | | | | |
| | Taxable Income: | | | | | | | | | | |
| | Adjustments required to arrive at taxable income | $188,000 | (3) | | | $214,136 | | | | | |
| | Utility Income Taxes and Rates: | | | | | | | | | | |
| | Income taxes (not grossed up) | $497,058 | | | | $496,375 | | | | | |
| | Income taxes (grossed up) | $692,764 | | | | $691,812 | | | | | |
| | Capital Taxes | $ - | (6) | | | $ - | (6) | | | | (6) |
| | Federal tax (%) | 16.50% | | | | 16.50% | | | | | |
| | Provincial tax (%) | 11.75% | | | | 11.75% | | | | | |
| | Income Tax Credits | $ - | | | | $ - | | | | | |
| 4 | **Capitalization/Cost of Capital** | | | | | | | | | | |
| | Capital Structure: | | | | | | | | | | |
| | Long-term debt Capitalization Ratio (%) | 56.0% | | | | 56.0% | | | | | |
| | Short-term debt Capitalization Ratio (%) | 4.0% | (2) | | | 4.0% | (2) | | | | (2) |
| | Common Equity Capitalization Ratio (%) | 40.0% | | | | 40.0% | | | | | |
| | Prefered Shares Capitalization Ratio (%) | | | | | | | | | | |
| | | 100.0% | | | | 100.0% | | | | | |
| | Cost of Capital | | | | | | | | | | |
| | Long-term debt Cost Rate (%) | 5.65% | | | | 5.60% | | | | 5.60% | |
| | Short-term debt Cost Rate (%) | 2.07% | | | | 2.07% | | | | 2.07% | |
| | Common Equity Cost Rate (%) | 9.85% | | | | 9.85% | | | | 9.85% | |
| | Prefered Shares Cost Rate (%) | | | | | | | | | | |

## 11. Ref: Application, page 2 – Stranded Meters

On page 2 of its Application, Kingston states that it "is not requesting recovery of stranded meter costs at this time. The stranded meter costs will be addressed in Kingston Hydro's next Cost of Service application. In accordance with the Board's Smart Meter Funding and Cost Recovery – Final Dispositional Guideline (G-2011-001) the stranded meters will remain

in rate base until the re-basing application. Kingston Hydro estimates the stranded meter costs at approximately $1,900,000 at December 31, 2011."

Since Kingston rebased its rates through a cost of service application for 2011, Kingston is next scheduled to apply for rates through a cost of service rates application for 2015.

a) Please confirm that Kingston Hydro is continuing to amortize the capital cost of conventional meters stranded through replacement by smart meters for residential and GS < 50 kW customers.
b) Please provide an estimate, by customer class, of the net book value of conventional meters stranded by replacement by smart meters as of December 31, 2014.

## 12. Ref: Smart Meter Model – Cost per Smart Meter Installed

Using the below table as a guide, please provide the following:

a. A table showing the cost per meter, in total and for each of Residential and GS < 50 kW customer classes, and broken out as.

- Minimum functionality: capital
- Minimum functionality: capital and OM&A
- Minimum functionality and beyond minimum functionality: capital
- Minimum functionality and beyond minimum functionality: capital and OM&A.

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | Total |
|---|---|---|---|---|---|---|---|---|
| Capital related to minimum functionality | | | | | | | | |
| Capital beyond minimum functionality | | | | | | | | |
| OM&A related to minimum functionality | | | | | | | | |
| OM&A beyond minimum functionlity | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Number of Smart Meters Deployed | | | | | | | | | |

| | **Total** | **Average per meter** |
|---|---|---|
| **Total (capex + opex)** | | |
| **Capex only** | | |
| **OM&A only** | | |
| **Beyond minimum functionality only** | | |

b. Please provide a breakdown of the meter types installed, by year, for the Residential and GS < 50 kW classes.

**13. Ref: Application, Table 1.1 and Smart Meter Model**

In its Application, Kingston proposes the following SMDRs and SMIRRs for residential and GS < 50 kW customer classes:

| | | Residential | GS < 50 kW |
|---|---|---|---|
| SMDR | January 1, 2013 to December 31, 2014 | $0.80 | $0.65 |
| SMIRR | January 1, 2013 until the effective date of rates from Kingston's next cost of service application | $2.22 | $2.22 |

Board staff observes that Kingston is proposing a SMDR for the GS < 50 kW class that is less than the SMDR for the residential class. This appears unintuitive as the SMFA was uniform for all customer classes at any point in time from May 1, 2006 to April 30, 2012, and, in general, the Board's experience is that the average cost for a GS < 50 kW smart meter is greater than that for an average residential smart meter, due to a higher proportion of more expensive polyphase meters for customers with 2-phase or 3-phase service. Combined, this should mean that the GS < 50 kW SMDR is no less than, and generally greater than that for the residential smart meter.

a) On row 48 of sheet "10A. Cost_Alloc_SMDR", the sum of the allocated revenues is 99%. No revenues are shown as being collected from GS > 50 kW or other metered customer classes.

   1) Please explain why the SMFA revenue allocation only adds up to 99%.

   2) Please explain how Kingston has determined the allocation of SMFA revenues, and how SMFA revenues from other meter customer classes collected since May 1, 2006 have been factored into the determination of class-specific SMDRs.

b) On page 17 of the Application, Kingston states that it used the number of installed smart meters for Residential and GS < 50 kW classes as the allocator for costs in the absence of class-specific cost data.

   Please explain why Kingston Hydro does not have the information on the costs and types of smart meters installed per class, since this information is necessary for allocating meter costs in a cost allocation model (i.e. Sheet I7.1 of the Board-issued Cost Allocation model).

## 14. Ref: Operational Efficiencies and Cost Savings

On page 19 of *Guideline G-2011-0001: Smart Meter Funding and Cost Recovery – Final Disposition*, the Board states:

> "In considering the recovery of smart meter costs, the Board also expects that a distributor will provide evidence on any operational efficiencies and cost savings that result from smart meter implementation."

a) Please discuss operational efficiencies and cost savings achieved by Kingston.

b) Please explain if Kingston expects to achieve operational efficiencies and cost savings in the future. If so, please provide Kingston's estimates as to the timing and nature of these savings.

### 15. Ref: Smart Meter Model, Sheet 8A – Depreciation Expense

On Sheet 8A of the Smart Meter Model, Kingston has only input depreciation expenses for the following months: December 2010; December 2011, and March, April and May of 2012.

a) Please explain the credit entry of ($5,715.95) for April 2012.

b) Monthly depreciation expenses should be available from the entries of the sub-account of Account 1556 – Smart Meter Operating Expenses. Please explain the absence of expenses for other months. If available, please update the entries on this sheet. These should also closely correspond with the depreciation expense calculated on sheet 4 of the Smart Meter Model.

### 16. Ref: Smart Meter Model

If Kingston has changed its inputs to the Smart Meter Model as a result of any of the above interrogatory responses, please update and re-file the Smart Meter Model in working Microsoft Excel format, using version 3.00 of the model.

### 17. Ref: Cost Allocation

a) If Kingston has made revisions to its Smart Meter Model as a result of its responses to interrogatories, please update the proposed class-specific SMDRs accordingly.

b) Similarly, please update the calculation of class-specific SMIRRs.