



1 **Interrogatory**

2

3 **QUESTION #1**

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5 Please confirm that the Applicant has 254 schools operated by publicly funded school
6 boards in its franchise area. Please advise how many schools are in each of the GS<50
7 and GS>50 classes.

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9 **Response**

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11 A query of Hydro Ottawa's Customer Information System has identified 246 schools
12 operated by the four publicly funded school boards in the area. There are 65 schools in
13 the GS < 50 kW class and 181 schools in the GS > 50 kW class.



1 **Interrogatory**

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3 **QUESTION #2**

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5 [Ex. A1/2/2] With respect to the Rationale for Rebasing:

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7 a. Please divide the various reasons given for a non-standard rebasing into a) those
8 reasons that reflect unique characteristics of the Applicant that are not common to
9 other LDCs, and b) those reasons that reflect flaws that the Applicant believes exist
10 in the IRM mechanism and formula.

11

12 b. P. 2. Please explain how the situation of Toronto Hydro or Hydro One Distribution
13 informs the Board with respect to the appropriateness of rebasing by the Applicant.
14 Please describe how the situation of the Applicant is similar to that of Toronto Hydro
15 and Hydro One Distribution, in such a way that the rebasing decisions with respect to
16 those other two LDCs should apply to Hydro Ottawa.

17

18 c. P. 4. Please confirm that it is the Applicant's view that a utility spending money to
19 address its aging infrastructure cannot operate under IRM. Please confirm that the
20 total of the \$1.330 million increase in revenue due to load growth, and the \$2.072
21 decrease in PILs, plus the normal IRM increase of about \$1.500 million, plus the
22 normal amortization expense, together are more than enough to cover the increase
23 in amortization requested by the Applicant in the Test Year, including the accelerated
24 amortization of stranded meters.

25

26 d. P. 6. Please confirm the Applicant's belief that aging workforce is a problem shared
27 by most Ontario utilities. Please confirm that it is the Applicant's view that a utility
28 spending money to address its aging workforce cannot operate under IRM.

29



- 1 e. P. 7. Please confirm that it is the Applicant's view that a utility successfully
2 promoting conservation, and thus experiencing declining average use, cannot
3 operate under IRM.
4
- 5 f. P. 8. Please confirm that one of the reasons that the Applicant chose to rebase in
6 2011 rather than later is to obtain an increase in its cost of capital that otherwise,
7 under the Board's policies, would not be available until a later year. Please quantify
8 the impact of that higher cost of capital, including impacts on ROE, debt, and PILs,
9 for 2011.
10
- 11 g. P. 10. Please confirm that one of the reasons the Applicant chose to rebase in 2011
12 rather than later is that the Applicant disagrees with the Report of the Board on
13 Electricity Distributors' Deferral and Variance Accounts Review, and seeks to avoid
14 its application by applying for cost of service earlier than scheduled.
15
- 16 h. Please provide a calculation showing the difference in regulatory expenses between
17 a cost of service year and an IRM year for the Applicant, including all direct and
18 indirect costs associated with the choice of cost of service. Please show how the
19 ratepayers are impacted by the decision to incur the higher cost earlier and more
20 often.
21
- 22 i. Please confirm that the Applicant does not plan to follow the current cost of service
23 application with three years of IRM.
24
- 25 j. Please provide all analyses, spreadsheets, models, reports, scenarios, or other
26 calculations or documents prepared by or for the Applicant at any time showing the
27 difference in any part of the revenue requirement, or the difference in all or any rates,
28 between Hydro Ottawa applying under COS and Hydro Ottawa applying under IRM,
29 including but not limited to any multi-year scenarios.
30



1 k. Please provide the report or presentation to Hydro Ottawa's executive team
2 supporting the proposal to file for cost of service early, including any supporting
3 documents.

4

5 l. Please provide the report or presentation to Hydro Ottawa's Board of Directors
6 supporting the proposal to file for cost of service early, including any supporting
7 documents.

8

9 **Response**

10

11 a) Hydro Ottawa does not see the relevance of categorizing its rationale for rebasing by
12 whether issues are unique to Hydro Ottawa. Whether Hydro Ottawa has any issues
13 common with other distributors does not mean that these issues should not be
14 addressed.

15 It is not appropriate to characterize the incentive regulation mechanism ("IRM") as
16 having "flaws". Any rate setting mechanism has its limitations. For IRM, the
17 limitations include the ability to address large capital investments or incorporate new
18 programs or initiatives, addressing issues such as declining loads or seeking a
19 change to conditions like the rate year.

20 Table 1 provides a discussion of each of Hydro Ottawa's reasons for rebasing in the
21 context of whether the reason applies to all distributors or could be addressed under
22 IRM.

23

24

25

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27



1

Table 1 – Discussion of Reasons for Rebasing

Reasons for Rebasing	Discussion
Aging Infrastructure	While this issue is not unique to Hydro Ottawa, it is not common to all distributors, some of which have newer infrastructure. Hydro Ottawa has a downtown core that tends to be in excess of 50 years old. It also has suburban areas that underwent significant growth in the 1960's and 1970's. The infrastructure in these areas needs investment to ensure that reliability is maintained.
Workforce Planning	Hydro Ottawa cannot comment on the demographics of the workforces of other distributors, but Hydro Ottawa has undertaken an assessment of its workforce and identified the need for renewal through apprenticeship programs and other succession planning initiatives.
Declining Usage Per Customer	Hydro Ottawa has worked hard at promoting conservation in the City of Ottawa and the conservation culture is getting significant traction in the city. Hydro Ottawa cannot comment on the extent to which this may be occurring in other areas of the province.
Conclusion of Smart Meter Program	Hydro Ottawa has been an early adopter of the Smart Meter program and its program will be substantially complete at the end of 2010. Many distributors are not as advanced in their programs.
Green Energy Act Plan	While the filing of a Green Energy Act Plan remains optional for 2011, Hydro Ottawa takes its responsibilities to facilitate renewable generation and implement a smart grid very seriously. While a funding mechanism may be available under IRM, this would not provide Hydro Ottawa with guidance from the Board on the appropriateness of its plans.
Change to Board's policy on return on equity	This would be a common issue for all distributors.
Change to Calendar rate year	The Board has determined that a change to a calendar rate year can only occur through cost of service application. Of the distributors filing cost of service applications for 2011, only a few have sought a change to a calendar rate year. This tends to be the larger distributors like Hydro Ottawa, Hydro One Networks, Hydro One Brampton and Horizon Utilities who would have more complicated business planning processes.
Clearance of Variance and Deferral Accounts	This would be a common issue for all distributors.

2

- 3 b) There were two points that Hydro Ottawa made in Exhibit A1-2-2 when considering
 4 the situation of Toronto Hydro Electricity System Limited ("THESL") and Hydro One
 5 Networks Inc. ("Hydro One"). The first is that the Ontario Energy Board's (the
 6 "Board") letter of April 20, 2010 may have introduced a different and higher standard
 7 to meet for the filing of cost of service rate applications that was not expected of



1 either THESL or Hydro One, regardless of their circumstances. Two sets of
2 regulatory standards for distributors would be inappropriate.

3 The second point that Hydro Ottawa raised is that it appears to have the same three
4 issues highlighted by THESL in EB-2009-0139 as its reasons for rebasing; rate base
5 increases, the need for workforce renewal and decreases in load. These reasons did
6 not seem to be the subject of debate in THESL's proceeding. In addition to these
7 reasons, Hydro Ottawa also provided details of a number of additional reasons for its
8 decision to file a cost of service application.

9 c) The extent to which aging infrastructure can be addressed under IRM would depend
10 on each utility's particular circumstances and the extent of the aging infrastructure to
11 be addressed. As discussed in Exhibit A1-2-1, the available incremental capital
12 module has limitations that make it ineffective in addressing the funding for aging
13 infrastructure.

14 Hydro Ottawa does not agree with the assumptions that are used to frame this
15 question. In particular:

- 16 1. Under IRM a distributor is required to share 50% of any savings related to
17 changes in tax rates with customers. Therefore tax savings are only partially
18 available to distributors.
- 19 2. Depreciation expense is not the only cost affected by investments in aging
20 infrastructure. These investments also result in increases in the cost of capital.
21 These must be factored into any comparison.
- 22 3. The question assumes an adjustment under IRM of \$1.5 million. In 2010, the
23 inflation factor was 1.3% and the productivity factor was 1.12% resulting in an
24 adjustment to base rates of only 0.18%. This provided an increase in revenues of
25 less than \$300k.

26 d) Hydro Ottawa cannot confirm that the issue of aging infrastructure is one shared by
27 most Ontario utilities. Hydro Ottawa knows that this has been raised as an issue in



1 THESL's and Hydro One's rate proceedings, and Hydro Ottawa has highlighted the
2 issue in its previous rate proceedings. Hydro Ottawa would expect there could be a
3 number of distributors in the province that have high growth and newer suburban
4 infrastructures such that aging infrastructure is not an issue to the same extent.

5 e) The targets that have been set for conservation and demand management ("CDM")
6 between 2011 and 2014 are very aggressive. Hydro Ottawa has already seen a
7 significant decline in its usage per residential customer before the introduction of
8 these targets. While Hydro Ottawa is supportive of conservation initiatives, it remains
9 concerned about the impact of these on its revenues. While there is a lost revenue
10 adjustment mechanism ("LRAM"), it currently does not compensate for all CDM
11 activity in Ottawa. For this reason, the only mechanism for addressing the situation
12 of decline usage per customer is to update the sales volumes in a cost of service
13 rate application.

14 f) Hydro Ottawa confirms that one of the reasons that it elected to file a cost of service
15 rate application was the change to the Board's policy with respect to the rate of
16 return on equity ("ROE"). The change to the Board's policy would not have an impact
17 on Hydro Ottawa's debt rate. The change in ROE from Hydro Ottawa current
18 approved rate of 8.57% to the 2010 deemed rate 9.85% would have the impact
19 shown in Table 2 on the deemed net income and payments in lieu of taxes ("PILs").
20 This was determined from Hydro Ottawa's current approved rate base of
21 \$545,805,833.
22

23 **Table 2 – Impact on Revenue Requirement of Change in ROE**

	ROE 9.85%	ROE 8.57%
Rate Base: \$545,805,833		
Deemed Equity @ 40%: \$218,322,333		
Deemed ROE (net income)	21,504,750	18,710,224
Estimated PILs @ 28.25% Grossed Up	8,467,027	7,366,743
Total	\$29,971,777	\$26,076,967

24

25 In this scenario, Hydro Ottawa's deemed net income would increase by \$2.8 million.

26 This does not reflect the change to rates to customers because it does not consider



- 1 the other changes within a cost of service rate application, such as a new load
2 forecast.
3
- 4 g) Hydro Ottawa recognizes that the Board needed to develop generic practices for the
5 review and clearance of variance and deferral accounts. The categorization of
6 accounts into two groups was an appropriate way of expediting the clearance of
7 accounts. With any generic practices, there can be circumstances that were not
8 considered. In Hydro Ottawa's case, it has a number of very large balances in some
9 of its variance and deferral accounts; however, since some accounts are in a liability
10 position and some are assets, the effect is a net balance that does not meet the
11 Board's established materiality limit. For this reason, Hydro Ottawa would be unable
12 to clear the balances under IRM. While the accounts are netted as a total, this does
13 not take into account the different factors that are used to allocate balances to
14 customer classes. Therefore a total balance that is not considered material enough
15 to clear does not necessarily mean that the resultant rate riders to certain customers
16 are not material.
17
- 18 h) Please see the response to EB #22.
19
- 20 i) Please see the response to CCC #6.
21
- 22 j) See the response to k) and l) below. These presentations provide the impact of the
23 cost of capital decision on the deemed net income.
24
- 25 k) Included as Attachment 1 is the presentation that was provided to Hydro Ottawa's
26 Executive in December 2009.
27
- 28 l) Included as Attachment 2 is the presentation that was provided to Hydro Ottawa's
29 Board of Directors in March 2010.

Rate Application

2011

OEB Cost of Capital Proceeding

- Proceeding launched early in 2009 when old formula calculated ROE of 8.01%
- Hydro Ottawa worked with CLD and Hydro One using Concentric Energy Advisors and George Vegh to support submissions.
- Report of the Board determined the following:
 - ROE will still be set based on a formula
 - The formula will start from September 2009 (9.75%) with adjustments for changes in interest rates (from Bloomberg)
 - The OEB confirmed that ROE is a cost of service, not a profit.
 - Ownership (public versus private) will not affect ROE.
 - Deemed long-term debt rate will have a new formula (aligned to ROE calculation)
 - Short-term debt rates will be based on a spread set each year based on banks (currently fixed at 25 basis points resulting in a rate of only 0.55%).
- The Board agreed with the CLD's comments in many areas
- Hydro One forecast of ROE for 2010 is 9.75 and for 2011 is 10.13%
- Current Deemed ROE 8.01% - Hydro Ottawa current approved ROE 8.57%

Assume Rate Base \$609 million

Equity @40%	\$244 million
ROE @ 8.01%	\$19.5 million
ROE @ 8.57%	\$20.9 million
ROE @ 9.75%	\$23.8 million
ROE @ 10.13%	\$24.7 million

- Current 2011 Business Plan ROE is 8.5%, Net Income: \$21.4 million

2

Opportunities with Rebasing

- Board's Cost of Capital report indicates a higher ROE
- The Board will require LDCs filing for 2011 rates to provide all years (2008-2011) in CGAAP, which we currently have. Impact of IFRS would be captured in deferral accounts once known.
- Recovery of higher OM&A and Depreciation
- There will continue to be upward pressure on non-distribution rates – with incorporation of GEA in rates and HST – possibility of moratorium in future
- New promissory note in WACC
- Clearing of variance and deferral accounts (Reg Assets and Liabilities)
- Funding for new apprentices and other programs is possible
- Certainty of approval of capital expenditures and inclusion of fixed assets in rate base including GEA
- Rate Impact for distribution charges – to be determined, but initially looks like it can be kept <2% Total bill for 800 kWh Residential customer (impact of regulatory assets clearing unknown).

3

Risks with Rebasing

- Large impact on resources given other priorities: TOU, IFRS, JDE, HST, Industry changes
- Impact of IFRS would not be known at the time of filing
- Timing of Collective Bargaining
- Customer Service Strategy and updated Conditions of Service not completed in time for filing
- 2012 and 2013 capital is also required; have only 2012 in CGAAP
- Green Energy Act Plan required; results of other applications may not be available, Final Filing Requirements may not be issued
- Tax rates would be rebased, under IRM only 50% paid back
- Limited time to complete necessary studies (e.g. Cost Allocation, lead/lag)-may need consultants
- Potential plans for Monthly Billing (increase costs but improved cash flow)
- Cost of application \$500k+ not in 2010 budget
- Risk of disallowances – expenses or debt rate
- Board consultation on aligning rate year with calendar year
- Growth (including suite metering) gets rebased
- Potential Board consultation on returning HST savings may not be completed
- Intervenors have expressed concern with new CoC – will challenge Hydro One rate application
- OPA results not likely available for 2009 LRAM or load forecasts
- Hydro Ottawa has been successful under IRM

4

Considerations for Application

- Use existing 2011 and 2012 budget in JDE with a few strategic initiatives e.g. apprentices program and GEA plans
- Application to be completed in CGAAP (not IFRS)
- Need to prepare 2013 capital
- Need audited 2009 results
- Need updated load forecast including impacts of CDM
- GEA Plan must be prepared
- Confirm Debt issuance (actual and planned for 2010 and 2011)
- HoldCo allocations to be reviewed
- Collective Agreement assumptions
- Considerations for acquisitions (HONI, Public Works etc.)
- Distributor owned Generation – to be kept separate from distribution business
- Smart Meters to be included in base rates?
- Other ongoing initiatives – PILs proceeding, HST, TOU, JDE, 2010 Rates

5

2011 Application Timing

- Want next rates to start January 1st instead of May 1st to align with fiscal year.

Timing for CoS Application effective January 1, 2011

- Filing date of May 31, 2010 seems reasonable.
- Any adjustments to 2011 numbers needed by end of February.
- 2012 and 2013 capital plan required by end of March.
- 2009 actuals would be required by mid March

Timing for CoS Application effective May 1, 2011

- Filing date August 31, 2010 set by OEB.
- 2011 final numbers by end of May.
- 2012 and 2013 capital plan by end of June.

Schedule for other aspects of application determined by OEB

- Interrogatories
- Hearing

6

2011 Recommendation

- Commit Company and resources to 2011 Cost of Service application for filing by May 31, 2010.
- Continue to seek opportunity to adjust ROE under IRM but assume none available.

7

Next Steps

- Identify and form Team (support from all departments required but key resources from Finance and DAM essential).
- Map out full project plan.
- Identify potential external resources (consultants, legal).
- Identify strategic projects for 2011.

8



HYDRO OTTAWA LIMITED

Annex "A"

Distribution Rate Applications

**Hydro Ottawa Limited
Board of Directors
March 26, 2010**



2010 Rate Application Update

- Application based on 3rd Generation Incentive Regulation Mechanism (3GIRM)
- Inflation factor has been confirmed at 1.3%
 - Budget based on 1.8% - \$500k affect on distribution revenue forecast
- Hydro Ottawa's Stretch Factor to remain at 0.4% plus Productivity Factor of 0.72% for total reduction of 1.12% as budgeted
- Transmission Rates to increase by approx. 10% due to Hydro One increase (roughly 10% of the total bill)
- Commodity Rate may increase on May 1, 2010 (won't know until mid-April)

Bill impacts May 1, 2010:

Customer	Distribution Charges	Delivery Charge (Distribution and Transmission) as reported by OEB	Total Bill (without GST)
Residential (800 kWh/month)	-1.7%	1.3%	0.5%
Small Commercial (2,000 kWh/month)	-0.7%	1.2%	0.7%

Distribution Rate Strategy as at December 10, 2009 As presented with 2010 – 2012 Financial Plan

- Management reviewed options on timing of rate application for purposes of approval of 2010 to 2012 Financial Plan
- 2012 rebasing was consistent with previous Financial Plans
 - Term of 3GIRM ends in 2012
- At the time, preparation of a 2011 rate application was reviewed but not preferred, as increase in revenue not significant due to:
 - Possible reduction in regulated ROE from 8.57% to 8.01%
 - Under 3GIRM, HOL shares only 50% of benefit of corporate tax rate reduction with customers. With rebasing, full benefit is passed to customer
 - tax rate will have dropped from 33.5% at 2008 rebasing to 28.25% in 2011

3



Updated Information OEB Deemed Cost of Capital for Rates

- OEB launched a proceeding in early 2009 to review formula used for calculating a distributor's cost of capital for rate setting (deemed ROE and deemed interest)
- Hydro Ottawa worked throughout year with other distributors (CLD, Hydro One and Enbridge) to provide evidence that formula needed to be updated.
- On December 11th, OEB issued its report on Cost of Capital
 - ROE will still be set based on a formula
 - The formula will start from September 2009 at 9.75% with adjustments for changes in interest rates
 - The OEB confirmed that ROE is a cost of service, not a profit.
 - Deemed long-term debt rate will have a new formula (aligned to ROE calculation) but only used if there is no actual debt
 - Deemed short-term debt rates will be based on a spread set each year based on banks
 - No change to deemed capital structure (56% long-term debt, 4% short-term debt, 40% equity)
- Impact of this Decision on Deemed Hydro Ottawa Limited 2011 Net Income

Assume Rate Base	\$600 million	
Equity @40%	\$240 million	
ROE @ 8.01%	\$19.2 million	} Deemed regulatory net income
ROE @ 8.57%	\$20.6 million	
ROE @ 9.75%	\$23.4 million	

4



2011 Rate Application Decision Revisited

- **Hydro Ottawa had previously determined that at 8.01% ROE, a major cost of service rate application was roughly breakeven for base distribution business**
 - Cost of rate application would have offset increase in revenue
- **Base distribution plan was continuation of status quo with limited new funding for strategic initiatives**
 - With possible exception of funding related to the Green Energy Act (GEA)
- **At a 9.75% ROE, the economics change and a full cost of service rate application is now warranted**
 - Opportunity to reconsider strategic initiatives and cost drivers in 2011 Financial Plan
 - New formula established ROE at 9.85% for 2010

5



Plan for 2011 Rate Application

- **File Cost of Service Rate Application in late Spring for new rates effective January 1, 2011**
 - In the past, per OEB guidelines, rates have been effective May 1st of each year, but this misaligns revenues and costs
 - OEB has yet to approve a January 1st start for electricity distributors
- **Opportunity to incorporate strategic initiatives in plans**
- **OEB permits applications for 2011 to ignore affects of IFRS**
 - Variance account for differences likely required
 - May have to revisit impact of IFRS at a later date
- **Variance and deferral accounts are cleared (regulatory assets/liabilities)**
- **Cost of application roughly \$500K – legal, consulting, OEB costs, intervenor costs, administration**
 - To be funded within 2010 Approved Budget

6



Strategic Initiatives for Consideration 2011 Rate Application

2011 and 2012 OPEX and CAPEX forecasts as presented on December 10, 2009 will be updated as a result of new rate application decision. No revision to 2010 Budget as approved.

Initiatives under consideration for inclusion in 2011:

- **Smart Meter Entity (SME) (CAPEX + \$1.8M)**
 - IESO filing applications to recover costs from LDCs of building provincial meter data management and repository (MDM/R) through 2 options
 - Lump sum payment of costs incurred to December 31, 2009 plus monthly payment for ongoing costs, or
 - Monthly payment for all costs per meter
 - LDCs will seek to pass-through these charges to customers as follows:
 - Inclusion of lump sum payment in rate base during next cost of service application and
 - Addition of fixed month charge for smart meter customers that would be lower if an amount is included in rate base
 - Hydro Ottawa's total obligation for costs to December 31, 2009 is \$2.4M. If paid in 2011, this would mean monthly payments in 2010 and a remaining amount owing of \$1.8M in 2011.
 - Making the lump sum payment facilitates the transition to the new governance model for the SME

7



Strategic Initiatives - 2011 Rate Application (cont.)

- **Green Energy Act (GEA) (OM&A + \$0.4M, CAPEX + \$3.7M)**
 - Distributors are required to file GEA plans to facilitate renewable generators and implement a smart grid
 - Provides opportunity to get additional funding for these activities. 2 FTE included in 2010 Approved Budget.
 - With a cost of service application, costs undergo prudence review and therefore recovery is certain (with 3GIRM funding may be available but without certainty of cost recovery)
- **Harmonized Sales Tax (CAPEX - \$3M)**
 - Impact of Input Tax Credits (ITC) arising from HST is being evaluated
 - Net capital spending should be reduced, with no reduction in planned program
 - Full report on impact of HST implementation went to Audit Committee in March
- **Workforce planning – Expansion of Apprentice Program and other strategic activities (OM&A + \$1.4 M)**
 - Hydro Ottawa has not hired apprentices since 2008 and first group are graduating
 - Significant retirements are forecast in next 5 years
 - Workforce plan for 2011 proposes 13 FTEs for apprentices, 4.5 FTEs for advance hires to overlap with expected retirements and 7 FTEs for the strategic plan
- **Customer Information System Project (CAPEX - \$6M)**
 - New CIS will not go-live until after 2011 and therefore no impact on rate base or rates for 2011
 - Final strategy still in development therefore a "placeholder" of \$8M in 2011 and \$7M 2012 was in the business plan – revised to \$2M 2011, \$15M 2012, \$7M 2013 to reflect expected total cost of replacement

8



Strategic Initiatives - 2011 Rate Application (cont.)

- **New Stations Capacity (CAPEX + \$2.6M)**
 - Capital spending for new capacity at transformer stations continues to increase in response to customer growth. Rate application is an opportunity to address needs and ensure funding
 - \$17.2M included in 2010 budget. Proposal is for \$13.6M in 2011
- **Customer Service Strategy (OM&A + \$0.5M, CAPEX + \$0.5M)**
 - Additional funding to match Customer Service Strategy Plan as approved by the Board.
- **Conservation and Demand Management Pilots (CAPEX + \$.5M)**
 - Specific programs to be reviewed that are beyond current OPA funded programs, and are eligible for funding through distribution rates. New revenue opportunity for LDC
 - Proposal is for pilot project on adaptive lighting technology for streetlights as endorsed by the City of Ottawa
- **Environmental Plan (OM&A + \$0.2M, CAPEX + \$0.9M)**
 - Hydro Ottawa has a strategic objective to be a leader with environmental issues
 - Environmental Plan has been developed recommending initiatives. 2010 Budget includes \$500K as beginning of program
 - New initiatives include greater use of hybrids, waste diversion programs and strategic facilities improvements.
- **Facility Strategy (CAPEX + \$4.0M)**
 - Recommendation for some land purchases of \$4M to occur in 2011 and presentation of overall strategy
 - In addition, some construction forecast to commence, but would be construction in progress, not in rate base

9



Bill Impacts – 2011 Rate Application

- **Preliminary Bill Impacts of Rate Application have been reviewed**
 - Many unknowns and factors beyond Hydro Ottawa's control (e.g. commodity pricing set by the OEB, transmission rates from Hydro One, new conservation charges from Ministry of Energy and Infrastructure)
 - Numbers included in preliminary bill impacts may change as further work proceeds on the application, including the allocation to different customer classes and updated load forecast
- **Intent is to keep the bill impact to less than 3% for the average residential customer**
 - Assuming no change to commodity or transmission or new charges because details are not known
 - Excludes impact of HST on customer bill (Hydro Ottawa has not typically included GST changes in bill impacts)
 - Includes strategic initiatives as discussed
 - Clearing 2009 balances for regulatory assets and liabilities(OEB requirement)

10



Preliminary Bill Impacts – 2011 Rate Application

- **Total Bill Residential Customer on regulated price plan (800 kWh per month)**

Base Distribution Rates	2.0%
Clearance of variance and deferral accounts (reg assets/liabilities)	<u>-2.4%</u>
Total Bill Impact of Application	-0.4%

- **Total Bill Residential Customer signed with a retailer (800 kWh per month)**

Base Distribution Rates	2.0%
Clearance of variance and deferral accounts (reg assets/liabilities)	<u>0.6%</u>
Total Bill Impact of Application	2.6%

- Approximately 11% of Hydro Ottawa's customers have signed retail contracts for the electricity commodity
 - Customers who signed retail contracts pay a provincial benefit charge on bills to cover global adjustment costs
 - For the majority of Hydro Ottawa customers on the regulated price plan, the global adjustment costs are included in the commodity price
 - In 2009, the global adjustment costs increased significantly - because of timing issues, Hydro Ottawa did not recover all of its costs and had a \$17M global adjustment variance account (regulatory asset) at year-end
 - As part of a cost of service application, distributors are expected to clear all variance accounts
 - Since the global adjustment variance account is accumulated only from large customers and those on retail contracts, the balance is cleared only through these customers

Next Steps

- Finalize Strategic Initiatives and Costs (OM&A and Capital) to be included March
- Complete Final Rate Design and Bill Impacts May
- File Application June

The schedule is then set by the OEB, but all going well the timeline would be:

- Decision on Costs November
- Final Rates Approved December
- Rates Implemented January





1 **Interrogatory**

2

3 **QUESTION #3**

4

5 [Ex. A1/2/3] With respect to the Alignment of Rate Year to Calendar Year:

6

7 a. Please advise under what circumstances the Applicant believes it would be
8 appropriate for a distributor to continue with the May 1st rate year.

9

10 b. Please confirm that under the Applicant's proposal, the amount paid by the
11 ratepayers in rates in the period January 1, 2011 to April 30, 2011 would increase.
12 Please provide a detailed calculation of the amount of that increase, based on
13 approval of the Application as filed.

14

15 c. Please confirm that, under the current May 1st rate year, the Applicant seeks to
16 control its actual spending in a cost of service year to reflect the actual calendar year
17 expected revenues. Please advise what, if any, changes in budget practices are
18 expected to take place to reflect the higher calendar year revenues currently
19 proposed.

20

21 **Response**

22

23 a) Hydro Ottawa cannot comment on the circumstances of other distributors. Hydro
24 Ottawa is of the opinion, as it was in its 2008 electricity distribution rate application,
25 that the effective date for rates should align with the costs that the rates are designed
26 to recover. Hydro Ottawa's cost of service is based on costs from January to
27 December 2011, therefore, it is appropriate to make the rates effective January 1.

28

29 b) While it is expected that the total amounts paid by customers would be higher in the
30 period January 1 to December 31, 2011 with a January 1 rate change instead of a
31 May 1 rate change, the amounts charged to customers would still be just and



1 reasonable because the rates will be set to recover Hydro Ottawa's costs for the
 2 same time period.

3

4 Table 1 below shows the comparison between distribution revenue calculated at
 5 2011 proposed distribution rates and at the current 2010 distribution rates (excluding
 6 rate riders) for the period from January to April 2011.

7

8

Table 1 – Distribution Revenue Comparison

Customer Class	Jan	Feb	Mar	Apr	Total
Customer/Connection Numbers					
RESIDENTIAL	274,225	274,557	274,888	275,219	
GENERAL SERVICE <50KW	23,512	2,519	23,527	23,535	
GENERAL SERVICE 50-1000KW	3,262	3,263	3,263	3,264	
GENERAL SERVICE 1500-5000 KW	66	66	66	66	
LARGE USERS	12	12	12	12	
STREET LIGHTING	54,456	54,485	54,513	54,544	
UNMETERED SCATTERED LOADS	2,853	2,853	2,853	2,853	
SENTINEL LIGHTS	82	82	82	82	
STANDBY 50-1500 KW	2	2	2	2	
STANDBY 1500-5000 KW	2	2	2	2	
kWh/kW Sales					
RESIDENTIAL	226,442,812	202,602,572	197,614,108	164,292,484	
GENERAL SERVICE <50KW	75,063,206	67,766,306	66,947,958	57,354,826	
GENERAL SERVICE 50-1000KW	643,350	638,287	658,921	633,272	
GENERAL SERVICE 1500-5000 KW	142,101	141,154	138,665	141,006	
LARGE USERS	93,648	87,638	91,387	90,374	
STREET LIGHTING	9,758	9,774	9,790	9,805	
UNMETERED SCATTERED LOADS	1,453,752	1,360,984	1,416,666	1,358,128	
SENTINEL LIGHTS	18	18	18	18	
STANDBY 50-1500 KW	-	2,400	2,400	2,400	
STANDBY 1500-5000 KW	-	7,200	7,200	7,200	
Rates - Fixed Monthly Proposed 2011					
RESIDENTIAL	9.67	9.67	9.67	9.67	
GENERAL SERVICE <50KW	16.71	16.71	16.71	16.71	
GENERAL SERVICE 50-1000KW	284.49	284.49	284.49	284.49	
GENERAL SERVICE 1500-5000 KW	4,574.50	4,574.50	4,574.50	4,574.50	
LARGE USERS	16,613.44	16,613.44	16,613.44	16,613.44	
STREET LIGHTING	0.56	0.56	0.56	0.56	
UNMETERED SCATTERED LOADS	4.57	4.57	4.57	4.57	
SENTINEL LIGHTS	2.14	2.14	2.14	2.14	



STANDBY 50-1500 KW	122.34	122.34	122.34	122.34	
STANDBY 1500-5000 KW	122.34	122.34	122.34	122.34	
Rates - Volumetric Charge Proposed 2011					
RESIDENTIAL	0.0235	0.0235	0.0235	0.0235	
GENERAL SERVICE <50KW	0.0210	0.0210	0.0210	0.0210	
GENERAL SERVICE 50-1000KW	3.4405	3.4405	3.4405	3.4405	
GENERAL SERVICE 1500-5000 KW	3.2858	3.2858	3.2858	3.2858	
LARGE USERS	3.1455	3.1455	3.1455	3.1455	
STREET LIGHTING	3.9142	3.9142	3.9142	3.9142	
UNMETERED SCATTERED LOADS	0.0227	0.0227	0.0227	0.0227	
SENTINEL LIGHTS	8.2031	8.2031	8.2031	8.2031	
STANDBY 50-1500 KW	1.6326	1.6326	1.6326	1.6326	
STANDBY 1500-5000 KW	1.4976	1.4976	1.4976	1.4976	
Revenue Proposed 2011					
RESIDENTIAL	7,969,714	7,413,042	7,299,092	6,519,738	29,201,586
GENERAL SERVICE <50KW	1,968,365	1,815,341	1,798,294	1,597,074	7,179,074
GENERAL SERVICE 50-1000KW	3,141,417	3,124,211	3,195,351	3,107,244	12,568,222
GENERAL SERVICE 1500-5000 KW	767,373	764,171	755,900	763,546	3,050,990
LARGE USERS	493,931	475,025	486,819	483,632	1,939,406
STREET LIGHTING	68,470	68,547	68,624	68,702	274,343
UNMETERED SCATTERED LOADS	46,030	43,925	45,188	43,860	179,003
SENTINEL LIGHTS	323	323	323	323	1,294
STANDBY 50-1500 KW	245	4,163	4,163	4,163	12,733
STANDBY 1500-5000 KW	245	11,027	11,027	11,027	33,326
TOTAL	\$ 14,456,112	\$13,719,775	\$ 13,664,782	\$12,599,310	\$54,439,979
Rates - Fixed Monthly for 2010					
RESIDENTIAL	10.20	10.20	10.20	10.20	
GENERAL SERVICE <50KW	16.4100	16.4100	16.4100	16.4100	
GENERAL SERVICE 50-1000KW	252.44	252.44	252.44	252.44	
GENERAL SERVICE 1500-5000 KW	4,033.75	4,033.75	4,033.75	4,033.75	
LARGE USERS	14,645.14	14,645.14	14,645.14	14,645.14	
STREET LIGHTING	0.49	0.49	0.49	0.49	
UNMETERED SCATTERED LOADS	4.03	4.03	4.03	4.03	
SENTINEL LIGHTS	1.89	1.89	1.89	1.89	
STANDBY 50-1500 KW	107.83	107.83	107.83	107.83	
STANDBY 1500-5000 KW	107.83	107.83	107.83	107.83	
Rates - Volumetric Charge for 2010					
RESIDENTIAL	0.0207	0.0207	0.0207	0.0207	
GENERAL SERVICE <50KW	0.0185	0.0185	0.0185	0.0185	
GENERAL SERVICE 50-1000KW	3.0325	3.0325	3.0325	3.0325	
GENERAL SERVICE 1500-5000 KW	2.8962	2.8962	2.8962	2.8962	
LARGE USERS	2.7725	2.7725	2.7725	2.7725	



STREET LIGHTING	3.4501	3.4501	3.4501	3.4501	
UNMETERED SCATTERED LOADS	0.0200	0.0200	0.0200	0.0200	
SENTINEL LIGHTS	7.2304	7.2304	7.2304	7.2304	
STANDBY 50-1500 KW	1.4390	1.4390	1.4390	1.4390	
STANDBY 1500-5000 KW	1.3200	1.3200	1.3200	1.3200	
Revenue at 2010 Rates					
RESIDENTIAL	7,484,462	6,994,356	6,894,474	6,208,088	27,581,380
GENERAL SERVICE <50KW	1,774,494	1,639,628	1,624,615	1,447,269	6,486,007
GENERAL SERVICE 50-1000KW	2,774,395	2,759,231	2,821,936	2,744,277	11,099,839
GENERAL SERVICE 1500-5000 KW	676,490	673,667	666,378	673,117	2,689,652
LARGE USERS	435,382	418,718	429,113	426,304	1,709,517
STREET LIGHTING	60,351	60,419	60,486	60,555	241,812
UNMETERED SCATTERED LOADS	40,572	38,716	39,830	38,659	157,777
SENTINEL LIGHTS	285	285	285	285	1,141
STANDBY 50-1500 KW	216	3,669	3,669	3,669	11,223
STANDBY 1500-5000 KW	<u>216</u>	<u>9,720</u>	<u>9,720</u>	<u>9,720</u>	<u>29,375</u>
TOTAL	\$13,246,863	\$12,598,410	\$12,550,506	\$ 11,611,944	\$50,007,723

1

2

3 c) In setting its budget for each calendar year Hydro Ottawa first establishes what it
 4 calls its base budget, which is the budget to continue with existing programs. Hydro
 5 Ottawa then identifies if there are additional activities that are required in the year,
 6 either to meet external requirements or internal company objectives.

7

8 In evaluating any new programs or initiatives as part of a budgeting process, Hydro
 9 Ottawa always looks at the alignment to external requirements and internal
 10 objectives and the impact on rates to customers, but it also looks at whether it has
 11 the funding for the program. When the rates are set effective May 1 of each year, the
 12 final rate order is often not approved by the Ontario Energy Board (the "Board") until
 13 April; into the second quarter of the year. In this case, the company has no option
 14 but to keep its budget for the year open for several months into the year for final
 15 adjustments resulting from the Board's decision on rates.

16

17 If Hydro Ottawa is planning a major investment or new program in the year, it will
 18 consider seriously whether it should defer this until the Board's decision has been



1 issued. It would be unfortunate to have proceeded with an investment or new
2 program in the first quarter of the year that the Board ultimately denies.

3

4 For instance, if as part of a cost of service application Hydro Ottawa was planning an
5 expansion of its apprenticeship program, it may consider postponing the final hiring
6 decision until the Board has issued its decision on the cost of service. If some of the
7 costs were denied, Hydro Ottawa would assess the reasons for the denial, re-
8 evaluate the program, and possibly scale it back until a later date.

9

10 When rates are set effective January 1, Hydro Ottawa would anticipate receiving the
11 Board's decision by year end 2010, therefore the company would have the full
12 information on which to make its budget decisions for the calendar year and no
13 subsequent adjustments would be required.



1 **Interrogatory**

2

3 **QUESTION #4**

4

5 [Ex. A1/7/2] Please provide an organization chart showing how the positions listed on
6 page 2 relate to each other in terms of reporting and governance. For each of the
7 positions in Hydro Ottawa Holding Inc., please provide details of their overall duties, and
8 a percentage allocation of their time as between the Applicant and each other affiliate or
9 business activity in which they are involved.

10

11

12 **Response**

13 Please refer to Attachment 1 for an organization chart showing the requested positions
14 and how they relate to each other in terms of reporting and governance. The following
15 provides details of each positions overall duties and a percentage allocation of their time
16 to Hydro Ottawa Limited.

17

18 **President and Chief Executive Officer**

19 The President and Chief Executive Officer is responsible for the strategic leadership,
20 profitability, sustainability and growth of the company in alignment with the strategy
21 established by the Board of Directors and the Shareholder. The President and Chief
22 Executive Officer provides leadership to executive and senior management in fulfilling
23 the strategy.

24 Percentage allocation of time to Hydro Ottawa Limited – 55%

25

26 **Chief Financial Officer**

27 The Chief Financial Officer is responsible for the overall financial management of the
28 company's operations. The Chief Financial Officer provides leadership and direction to
29 the senior management staff in Finance, Procurement, Supply Chain, Facilities, Risk
30 Management and Audit.

31 Percentage allocation of time to Hydro Ottawa Limited – 69%



1 **Director Finance**

2 The Director Finance is responsible for providing leadership and direction to the finance
3 staff on financial plans, policies, and programs. The Director Finance is responsible for
4 overseeing the preparation of forecasts, budgets, year-end accounts and financial
5 statements.

6 Percentage allocation of time to Hydro Ottawa Limited – 69%

7

8 **Chief Human Resources Officer**

9 The Chief Human Resources Officer is responsible for the development, implementation
10 and management of human resources services, programs and initiatives in support of
11 business strategy and operations. The Chief Human Resources Officer provides
12 leadership and direction to the staff in the following functional areas - recruitment and
13 staffing, labour relations, training, compensation, payroll, organizational development,
14 health, safety and environment, and emergency and business continuity management.

15 Percentage allocation of time to Hydro Ottawa Limited – 93%

16

17 **Chief Information Officer**

18 The Chief Information Officer is responsible for the development, implementation and
19 management of information management and technology systems, programs and
20 initiatives in support of business strategy and operations. The Chief Information Officer
21 provides leadership and direction to the information management and technology staff.

22 Percentage allocation of time to Hydro Ottawa Limited – 55%

23

24 **Chief Communications Officer**

25 The Chief Communications Officer is responsible for the development, implementation
26 and management of communications programs and initiatives in support of business
27 strategy and operations. The Chief Communications Officer provides leadership and
28 direction to the staff in customer communications, internal communications, media
29 relations, crisis communications and community relations.

30 Percentage allocation of time to Hydro Ottawa Limited – 30%

31



1 **Chief Stakeholder Relations Officer**

2 The Chief Stakeholder Relations Officer is responsible for shareholder, Board, investor,
3 and government relations. The Chief Stakeholder Relations Officer plays a leading role
4 in developing strategic partnerships, and in managing the company's relationships with
5 elected and government officials, as well as providing strategic support and advice on
6 crisis communications and community engagement.

7 Percentage allocation of time to Hydro Ottawa Limited – 30%

8

9 **Chief Regulatory Affairs and Government Relations Officer**

10 The Chief Regulatory Affairs and Government Relations Officer acts as a senior advisor
11 on regulatory matters, managing the approval process for regulatory applications, and
12 developing relationships with internal, business and regulatory stakeholders ensuring
13 that all rate applications are filed in accordance with regulatory requirements and
14 business strategy. The Chief Regulatory Affairs and Government Relations Officer also
15 manages the monitoring of compliance with regulatory requirements and ensures the
16 completion of all regulatory reporting. The Chief Regulatory Affairs and Government
17 Relations Officer provides leadership and direction to the staff performing these
18 functions.

19 Percentage allocation of time – 88%

20

21 **Chief Enterprise Risk Management and Audit Officer**

22 The Chief Enterprise Risk Management and Audit Officer is responsible for the
23 development, implementation and management of the risk management program and
24 function and for the development, implementation and management of an independent
25 internal audit function for the company.

26 Percentage allocation of time to Hydro Ottawa Limited – 80%

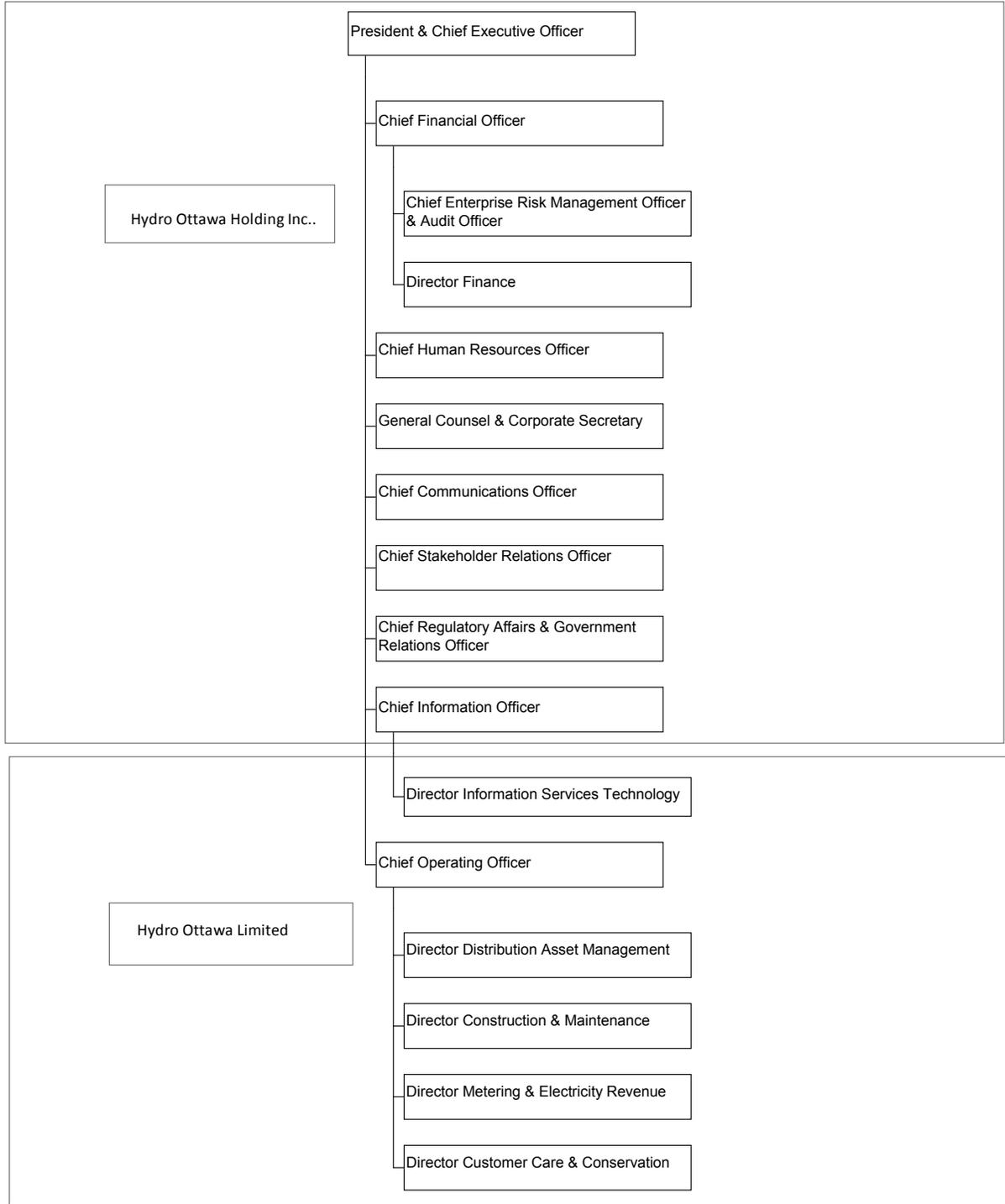
27

28 **General Counsel and Corporate Secretary**

29 The General Counsel and Corporate Secretary is responsible for drafting and reviewing
30 legal agreements, providing litigation and legal opinions and advice, and managing
31 access to information and protection of privacy for the company. The General Counsel



- 1 and Corporate Secretary ensures the provision of services to the Board of Directors and
- 2 is responsible for corporate governance practices.
- 3 Percentage allocation of time to Hydro Ottawa Limited – 63%





1 **Interrogatory**

2

3 **QUESTION #5**

4

5 [Ex. A1/7/3] With respect to the Service Level Agreement #01:

6

7 a. Please confirm that the parties to this agreement intend it to be a legally binding and
8 enforceable agreement.

9

10 b. Schedule 1. Please provide the full calculations supporting the annual fee.

11

12 c. Schedule 2. Please provide the detailed calculation of the cost per employee of
13 \$3,332.

14

15 d. Schedule 3. Please provide the detailed calculation of the cost per employee of
16 \$6,736. Please provide any information in the possession of the Applicant showing
17 how that cost per employee compares to the cost of similar services in the
18 competitive market.

19

20 e. Schedule 4. Please provide the full calculations supporting the annual fee.

21

22 f. Schedule 5. Please provide the full calculations supporting the annual fee.

23

24 g. Please confirm that the overall annual fee for 2010 is \$560,000. Please advise the
25 overall annual fee under this agreement for 2011, and break it down into each
26 Schedule. Please explain any variances of more than 10% in any of the fees
27 between 2010 and 2011, and between 2009 and 2010.

28

29



1 **Response**

2
3 a) Each Service Level Agreement (“SLA”) is intended to be legally binding. Reference
4 is made to Exhibit A1-7-3, Attachment F, Terms and Conditions dated January 1,
5 2009 which defines “Services” to include those services described in a SLA.

6 Collectively, the Terms and Conditions and the SLA form the Services Agreement,
7 as defined in the *Affiliate Relationships Code*.

8
9 b) Schedule 1, Building or Real Estate Support services totalling \$240,000 are based
10 on an 11,009 square foot occupancy level, factored by a rental rate of \$21.80 per
11 square foot. The rental rate was based on the prevailing market rate of \$12.00,
12 operating costs of \$9.20 and a Weighted Average Cost of Capital (“WACC”) on
13 operating costs of \$0.60, per square foot. The market rate was determined by an
14 independent third party. Facility operating costs for 2010 were budgeted at \$1.8M.

15
16 c) Schedule 2, Human Resources, Safety and Environment service costs, per
17 employee, are based on the 2010 budget of \$2,144,783, including a WACC of 6.55
18 percent. Based on an overall employee headcount of 660, the amount per employee
19 is \$3,250. A further \$82 is added to recover the costs of the Employee Assistance
20 Program (“EAP”), bringing the total to \$3,332 per employee.

21
22 d) Schedule 3, Information Technology service costs, per employee, are based the
23 2010 budget of \$215,564, including a WACC of 6.55 percent. The Holding Company
24 costs are based upon a headcount of 32 employees, factored by a unit cost of
25 \$6,736 per employee. Although a formal market comparison was not undertaken,
26 the majority of costs relate to maintenance contracts which are subject to a
27 competitive bid process. A cursory review of the market indicated that the \$6,736
28 per employee cost was within an acceptable range.

29



- 1 e) Schedule 4, Finance services are based on the services of one clerk and one
2 supervisor for a blended rate of \$34.27 per hour, factored by 642 hours, for an
3 annual fee of \$22,000.
4
- 5 f) Schedule 5, Communications services are based on the services of 6 full-time and 2
6 part-time staff for a blended rate of \$47.00 per hour, including a WACC of 6.55
7 percent. The number of hours allocated was 8.1 percent, therefore, the total cost
8 was based on employee compensation totalling \$559,731, factored by 8.1 percent
9 and 6.55 percent for an annual fee of \$48,000.
10
- 11 g) The total fee under the subject agreement for 2010 is \$560,000. The 2011 SLAs are
12 finalized in the Fall of 2010; therefore, the 2010 amounts were applied to the 2011
13 budget amounts in the absence of information to the contrary. Please refer to VECC
14 #5b, Table 2 and Table 3, for an explanation of variances.



1 **Interrogatory**

2

3 **QUESTION #6**

4

5 [Ex. A1/7/3] With respect to the Service Level Agreement #02:

6

7 a. Please confirm that the parties to this agreement intend it to be a legally binding and
8 enforceable agreement.

9

10 b. For each of Schedules 6 through 10, please provide the full calculations supporting
11 the annual fee.

12

13 c. For each of Schedules 6 through 10, please explain the extent to which the Applicant
14 has its own personnel or subcontractors engaged in similar or related functions, and
15 describe how the functions supplied by the parent company different from those
16 being met directly by the Applicant.

17

18 d. Please confirm that the overall annual fee for 2010 is \$4,540,000. Please advise the
19 overall annual fee under this agreement for 2011, and break it down into each
20 Schedule. Please explain any variances of more than 10% in any of the fees
21 between 2010 and 2011, and between 2009 and 2010

22

23 **Response**

24

25 a. Each Service Level Agreement (“SLA”) is intended to be legally binding. Reference
26 is made to Exhibit A1-7-3, Attachment F, Terms and Conditions dated January 1,
27 2009 which defines “Services” to include those services described in a SLA.
28 Collectively, the Terms and Conditions and the SLA form the Services Agreement,
29 as defined in the *Affiliate Relationships Code*.

30



- 1 b. The pricing methodology for Schedules 6 through 10, are provided in OEB #15 and
2 CCC #4.
3
- 4 c. Hydro Ottawa Limited has personnel in Regulatory Affairs, Finance, Human
5 Resources, Safety and Environment and Corporate Communications roles. Please
6 refer to the responses to SEC #4 and VECC #6 for a discussion of roles. A detailed
7 description of the services provided by Hydro Ottawa Holding Inc., is provided in
8 OEB #15.
9
- 10 d. The total fee under the subject agreement for 2010 is \$4,740,000 per Exhibit D1-2-1
11 and Attachment W. The 2011 SLAs are finalized in the Fall of 2010; therefore, the
12 2010 amounts were applied to the 2011 budget amounts in the absence of
13 information to the contrary. Please refer to VECC #5c, Tables 8 and 9, for an
14 explanation of variances.



1 **Interrogatory**

2

3 **QUESTION #7**

4

5 [Ex. A1/7/3] With respect to the Service Level Agreement #03:

6

7 a. Please confirm that the parties to this agreement intend it to be a legally binding and
8 enforceable agreement.

9

10 b. For each of Schedules 11 through 16, please provide the full calculations supporting
11 the annual fee.

12

13 c. Please confirm that the overall annual fee for 2010 is \$323,004. Please advise the
14 overall annual fee under this agreement for 2011, and break it down into each
15 Schedule. Please explain any variances of more than 10% in any of the fees
16 between 2010 and 2011, and between 2009 and 2010

17

18 d. Please explain how the services in Schedules 12, 13, and 14 differ from the services
19 in Schedules 2, 3 and 4 of Agreement #01. For Schedules 12 and 14, please explain
20 any differences in unit costs and unit fees compared to Schedules 2 and 4.

21

22 **Response**

23

24 a. Yes, each Service Level Agreement (“SLA”) is intended to be legally binding.
25 Reference is made to Exhibit A1-7-3, Attachment F, Terms and Conditions dated
26 January 1, 2009 which defines “Services” to include those services described in a
27 SLA. Collectively, the Terms and Conditions and the SLA form the Services
28 Agreement, as defined in the *Affiliate Relationships Code*.

29

30 b. Schedule 11, Building or Real Estate Support services totalling \$19,007 was based
31 on an estimate of property taxes relating to a Generating Station, adjusted for



1 inflation. Special requests, should they arise, are based on an internal labour rate of
2 \$50 per hour and an external labour rate at cost.

3

4 Schedule 12, Human Resources, Safety and Environment service costs are based
5 on the 2010 budget of \$1,791,948, including a weighted average cost of capital
6 (“WACC”) of 6.55 percent. Based on an overall employee headcount of 660, the
7 amount per employee is \$2,715. A further \$82 is added to recover the costs of the
8 Employee Assistance Program (“EAP”), bringing the total to \$2,797 per employee.
9 Factored by 8 employees, the SLA total cost is \$22,377.

10

11 Schedule 13, Information Technology service costs, per employee are based on the
12 2010 budget of \$53,891, including a WACC of 6.55 percent. Energy Ottawa Inc.
13 costs are based upon a headcount of 8 employees, factored by unit cost of \$6,736
14 for a total of \$53,891.

15

16 Schedule 14, Finance services are based on a blended rate of \$47.06 per hour,
17 factored by 1,074 hours, for an annual fee of \$50,542.

18

19 Schedule 15 – Meter and Meter Data Services are based upon labour of \$45,013
20 and system costs of \$31,416 and WACC of \$3,866 for a total of \$80,295.

21

22 Schedule 16 – The Service Level Agreement that was signed was based on an
23 hourly rate of \$62. A subsequent true-up of actual costs increased the hourly rate of
24 providing Generation Services to Energy Ottawa to \$64. This amount is derived from
25 a base salary rate of \$38.31 per hour, factored by a productivity rate of 72.5 percent
26 which equals \$52.84 per hour. Benefits calculated at \$8.04 per hour and Overheads
27 calculated at \$3.12 per hour are added, bringing the chargeable rate to \$64.00.

28 Supervisory duties, equipment and office requirements are provided by Energy
29 Ottawa, so overhead charges have been reduced accordingly. Hours of work are
30 estimated to be 1,500 hours.

31



1 c. With reference to Exhibit A1-7-3, Attachment E, the estimated costs of providing
2 services to Energy Ottawa total \$324,004. The 2011 SLAs are finalized in the Fall of
3 2010; therefore, the 2010 amounts were applied to the 2011 budget amounts in the
4 absence of information to the contrary. Please refer to Vulnerable Energy
5 Consumers Coalition, Interrogatory response #5b), Table 5 and 6, pages 4 and 5 for
6 an explanation of variances.

7

8 The pricing for Hydro Ottawa Limited Human Resources, IT and Finance services
9 vary between Energy Ottawa and Hydro Ottawa Holding Inc., due to differences in
10 the level or amount of services required and the number of staff receiving the
11 services. These calculations were based on 8 full time equivalent (“FTE”) staff in
12 Energy Ottawa and 32 FTE staff in the Holding Company. In the case of Human
13 Resources services, fewer services are required by Energy Ottawa under Schedule
14 12, than Hydro Ottawa Holding Inc., thereby reducing the unit cost. Finance services
15 for Schedule 14 involve a higher amount of services and resources, because Energy
16 Ottawa does not have related services internally. For this reason the unit cost is
17 higher.



1 **Interrogatory**

2

3 **QUESTION #8**

4

5 [Ex. A2/1/2, Attach. p 7] Please confirm that the Applicant has calculated a deficiency of
6 \$11.7 million, requiring an overall increase in distribution rates of 7.99%.

7

8 **Response**

9

10 Based on the Ontario Energy Board's Revenue Requirement Work Form ("RRWF"), the
11 deficiency has been calculated at \$11.7M. However this does not translate into a 7.99%
12 increase in base distribution rates for the following reasons:

13

- 14 • The Board's RRWF does not include the Transformer Ownership Credit of
15 \$1.171M which must be added to the 2011 Base Revenue Requirement before
16 rates are calculated, and
- 17 • Hydro Ottawa has proposed moving from a Fixed Smart Meter Adder in 2010 to
18 Smart Meters in rate base in 2011 and therefore the associated revenue
19 requirement will now be split between the Monthly Fixed Service Charges and
20 the volumetric rates.



1 **Interrogatory**

2

3 **QUESTION #9**

4

5 [Ex. A2/2/2] With respect to the Budget Guidelines:

6

7 a. P. 2. Please provide all business cases filed in support of new initiatives budget
8 measures.

9

10 b. P. 2. Please advise the productivity factor that was to be achieved, and show how it
11 was calculated, including all supporting data.

12

13 c. P. 2. Please provide a detailed summary of all headcount increases for which
14 approval of the COO and CEO were requested, and specify which of those increases
15 were not approved by the COO and CEO.

16

17 d. P. 2. Please describe the “collective bargaining envelope”, and describe how it is
18 used in the budget process.

19

20 e. P. 3. Please confirm that, despite the budget guidelines, the Applicant has not
21 moved forward with IFRS implementation for the Test Year.

22

23 **Response**

24

25 a. The Budget Guidelines were for the 2010 budget and 2011 plan, so the business
26 cases provided to support the 2010 budget carry over to the 2011 plan. Please refer
27 to Attachment 1 for the business cases for new initiatives included in 2010 and 2011.

28

29 b. The productivity factor is calculated at 1% of gross OM&A before allocations. Note
30 that this is in addition to any third generation incentive regulation mechanism
31 productivity factor.



1 c. The following list shows the headcount requests and those that were approved. Only
2 approved positions were put in the budget.

3

# of Positions	Position Title	Status
1	Renewable Generation Engineer	Approved 2010
1	PMO Administrator	Approved 2010
1	Customer Communications Officer	Approved 2010
1	CIS Technical Support Analyst	Approved 2010
1	CIS Technical Support Analyst	Approved 2010
1	Distribution Engineer	Approved 2010
1	Arch / Sys / Business Analyst	Not Approved
6	CO-OP Student	Not Approved
1	Distribution Inspectors	Not Approved
1	Distribution Inspectors	Not Approved
1	Field Technician	Not Approved
1	Helpdesk Agent - Junior	Not Approved
2	Info. Mgmt Specialist - Clients	Not Approved
1	Marketing Officer	Not Approved
5	Operators/DRR Maintainer	Not Approved
1	PC Support - Field Applications	Not Approved
1	Process SW Apps Spec	Not Approved
1	Program & Business Development Engineer	Not Approved
1	Program Analyst	Not Approved
2	SCADA Tech	Not Approved
2	Senior Customer Contact Agent	Not Approved
1	Service Layout Field Agent	Not Approved
3	Station Apprentice	Not Approved
1	Station Coordinator	Not Approved
1	Support Tech Power Quality	Not Approved
2	System Designer	Not Approved
1	System Support	Not Approved
1	V-10 - Arch / Sys / Business Analyst	Not Approved
1	Web services - eCommerce	Not Approved
1	Wireless Technical Support	Not Approved
45		

4

5 The collective agreement is used as a major source document when creating the
6 budgets as it defines an envelop which includes the agreed on compensation,
7 wage increase; both annual and progression, benefits and allowances. It is used



1 as a guideline for ensuring budget estimates include appropriate costs and
2 escalations factors as set out in the collective agreement. Where the new
3 agreement has not yet been ratified, budgeting assumptions are made based on
4 previous agreements and market conditions.

5

6 d. Hydro Ottawa confirms that the Applicant has not moved forward with IFRS
7 implementation for the Test Year.

Business Case: Expanded risk mitigation efforts will be required to address the heightened risk profile for CIS as a result of very significant volumes of new CIS code and infrastructure for MDMR/TOU deployment as well as decreased application support available from the vendor. Though the CIS is currently achieving excellent results for the business, it should be noted that transition to any alternative CIS solution is projected to take a minimum of 18 months. Therefore, risk mitigation efforts are essential to avoid or at least minimize negative impacts to ongoing business operations and allow consideration of expanded business opportunities.

Executive Sponsor: Roger Marsh

Description of the project: Expansion of accountabilities beyond the 2008 “business as usual” mandate of CIS Support due to the unavoidable, unplanned but increased risks to CIS as a result of the large volume of new code plus infrastructure changes for MDMR/TOU deployment as well as a reduced level of vendor support upon the end of Premier Support on Dec. 31/09.

Why are we doing this project?

- Regulatory requirement – Ensuring a stable, reliable and adaptable CIS is critical to meeting current and ongoing regulatory requirements.
- Enterprise objectives (improve reliability, customer satisfaction, safety, corporate reputation) – Since the CIS drives almost all direct interactions with our customers, significant challenges with the CIS would likely cause a ripple negative impact on the Enterprise objectives of customer satisfaction and corporate reputation. Related revenue from customers’ electricity bills produced through CIS is mission-critical to the financial health of Hydro Ottawa.

What are the consequences of not doing the project? Broadened risk exposure will result. Without the investment in broader resource and funding allocations, efforts in this area will require a trade-off with other regulatory requirements or business desires for enhancements. In addition, the availability of specialized skill sets and timelines for resolution if/when system challenges are encountered will likely be compromised, resulting in heightened negative business impacts.

Length of the project? Transition of MDMR/TOU both at Hydro Ottawa and provincially is expected to take at least 2 years to stabilize (2010 and 2011). Challenges with operating on a not fully supported CIS application will continue until transition and stabilization of a new CIS solution is achieved (likely in 2012 or 2013 but Capital Project approval not yet received).

What is the financial impact of the project?

	2010	2011	2012	2013	2014
Revenue	0	0	0	0	0
Operating Expense	580,000	425,000	400,000	0	0
Capital Expense	670,725	894,300	558,938	0	0
Additional Headcount	1.5	1	1	0	0

Tax Implications: None

Budget Assumptions: Catastrophic failure of CIS is NOT included in these budget estimates. Should this occur, it would be considered an extraordinary event requiring emergency funding. Anticipates acceptable CIS results will continue to be achieved but some challenges will occur.

Assumes that roll-out of MDMR/TOU continues per current plan with conclusion by June 2011.

Other potential CIS demands like monthly billing, Water billing, absorption of another LDC, Smart Grid &/or other significant strategic initiative that may arise are not part of this request. If applicable, dedicated funding for these new initiatives would need to be provided separately.

Projected OPEX impacts revised to reflect the most recent (yet preliminary) contract discussions with IBM as of early September 2009.

Owner of the Budget: Metering & Electricity Revenue (CIS Support)

Business Case: Smart Grid & Renewables Project – Feed-In-Tariff (FIT) Staffing

Executive Sponsor: Dave McKendry

Description of the project:

In order to implement the Feed-In-Tariff (FIT) and Micro FIT applications that will allow our customers to connect renewable generation to the distribution grid, additional staff (1 supervisor) is required to develop and manage the overall processes within the company and to act as the principle customer contact point. Processes will be documented and could be made available for sharing with other LDC's.

Why are we doing this project?

See above

What are the consequences of not doing the project?

Currently limited staff resources to manage the overall customer process and customer interface of this new government mandated initiative.

Length of the project?

Initially, this staffing requirement (1 FTE) is for the period of Jan – Dec 2010.

What is the financial impact of the project?

	2010	2011	2012	2013	2014
Revenue					
Operating Expense (Renewable Generation Engineer.)	\$100K				
Capital Expense					
Additional Headcount	1				
Consultant included in Opex					
Tax Implications:					
Budget Assumptions:					
-2011 to 2012 in CDM's OPEX budget					
Owner of the Budget:					
Bruce Bibby					

Business Case: Promark-Telecon, Underground Locates Service Provider

Background Information

- Hydro Ottawa is nearing the end of a 2yr contract with Promark (Dec 31, 2009)
- Early 2009, Promark spends \$25 – \$30k to upgrade computer systems in order to be compatible with Hydro Ottawa's GIS records.
- Hydro Ottawa & Promark discuss a mutual lack of confidence in the accuracy of new GIS records
- The double "look up" process was implemented for May to end of Sept 2009 to manage risks during the busiest construction season.
- Additional cost is \$4/look up
- May – Sept cost has been approx \$17k/mth
- Promark was asked to provide a \$ estimate for a 1yr contract extension
- Promark communicates their need to do resource planning beyond Sept 2009 and asks "is the double look up process going to continue"?

Where are we today?

The recommendation from GIS Records (Voisine & Morin) is to continue the double look up process for another year (end of 2010). During that timeframe, GIS Records will confirm specific areas where it is no longer necessary to perform double "look ups". Once a group of maps or a geographical area is confirmed to be of a high level of accuracy, GIS Records will provide the communication process to notify all users including our Locate Service Provider (LSP) of the details and request/ensure that all previous records be destroyed, returned or marked "DO NOT USE" (process TBD).

Hydro Ottawa has already received the proposed bid from Promark for a contract extension, which if accepted, would see a 3% increase in the Unit Pricing. Our existing RFP has a 2009 estimated value of \$950k and the increase represents an estimated additional \$28,500 to our OM&A budget if approved.

Based upon the number of "look ups" performed in 2008 and 2009 YTD we estimate that the cost of continuing the double look up process will be approx. \$ 120,000. As the year progresses and GIS Records validate additional areas, the cost of "look ups" should go down exponentially and the actual figure may be closer to \$60k.

Look Ups 2008

January - 808

February - 544

March – 460

April – 2,429

May – 4,816

June – 3,521

July – 3,576

August – 3,243

September – 3,172

October – 3,387

November – 1,664

December – 704

Total 28,384 x \$4 = \$113,500

Recommendations

The risk to public safety and associated cost of repairs for damaged assets far outweigh these costs. Damage prevention and public safety are the sole purpose of underground plant locating as mandated by the OHSA and a top priority for Hydro Ottawa.

Therefore; I recommend that we accept Promark-Telecon's contract extension bid and continue to perform double look ups until such time as the GIS Records team indicates that it is no longer necessary to do so.

The total estimated OM&A budget increase for 2010 would be \$90-\$150k.

Jeff Meek
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Business Case: IBM Call Handling Agreement Enhancements

Executive Sponsor: David McKendry

Description of the project:

The present IBM Call Handling Agreement is an Appendix to the existing CIS support agreement. The present agreement expires Dec 31, 2010. With the introduction of the MDM/R and the implementation of the Customer Service Consulting recommendations, the current IBM Call Handling needs to be enhanced for 2010 and extended to the end of 2012 until the MDM/R customer transition to TOU rates is complete.

Why are we doing this project?

- Enhance agreement to manage the expected increased call volumes with the introduction of TOU billing
- Improved customer service as we implement the recommendations of the Customer Service Consultancy with a focus on increased service level, increased call quality monitoring and improved First Call Resolution

What are the consequences of not doing the project?

- Negative media attention
- OEB service level requirements will not be met
- Customer experience will consist of extremely long wait time and increased in abandon calls

Length of the project? **3 years**

(2010 – 2012 considered part of this Enhancement)

(2013 – 2014 projected)

What is the financial impact of the project?

	2010	2011	2012	2013	2014
Revenue					
Operating Expense					
-TOU Calls	250K	500K	250K	175K	75K
Operating Expense					
-Increase SVL	270K	270K	270K	270K	270K
-Call Quality / FCR	180K	180K	180K	180K	180K
Capital Expense					
Additional Headcount	0	0	0	0	0

Tax Implications:

Budget Assumptions:

Owner of the Budget:

TOU Calls in Smart meter Budget
 Increased SVL / Call Quality / FCR in CC & C budget

Business Case: Cable Dept. Apprentice Hiring

Executive Sponsor: Lance Jefferies

Description of the project: Hiring of an additional 4 Power Cable technician Apprentices, in Q1 of the 2012.

Why are we doing this project?

- *To sustain staffing levels in anticipation of future retirements with in Cable dept.*
- *To sustain staffing levels for anticipated increase in workload as a result of City of Ottawa Light Rail initiatives.*
- *Possible increase in functions of the cable dept. (Transformer shop, Expanded cable duties etc.)*

What are the consequences of not doing the project?

In a department total of 22 staff members, one existing vacancy already exists and 4 expected retirements by the year 2016 and possibly 4 more in the year 2017, to adequately replace these departures, apprentices need to be hired and trained a minimum of 4 years prior to.

Length of the project?

Long term

What is the financial impact of the project?

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Revenue					
Operating Expense					
Capital Expense					

Additional Headcount

4

Tax Implications:

Budget Assumptions:

Owner of the Budget:

John Vedder, manager of C&M East

Business Case: Process Software Applications Specialist

Executive Sponsor: Norm Fraser/Lance Jefferies

Description of the project:

The Process Software Applications Specialist is required to support, develop and maintain workflow processes within the Construction and Mtce departments. Examples include: Workforce Mgt tools and programs, Digital electronic trades manuals, Mobile computing applications, Trades training on software and hardware programs.

Why are we doing this project?

- It is important to optimize the existing systems and tools used by the Construction and Mtce departments to become a fully mobilized work force.
- Streamline and enhance existing process and recommend improvements to automate current business needs.
- With these improvements the requirement to continually train field staff is critical to its success. Educating staff on software applications, hardware troubleshooting, and system remediation is a must. Staff must become independent and capable of assessing their own problems. Training will be continual.
- To maintain departmental production levels, this new staff member will enhance the business systems to its full potential.

What are the consequences of not doing the project?

- Uneducated workforce in systems
- Underutilized corporate systems

Length of the project?

- Continual

What is the financial impact of the project?

- One additional FTE

Operating Expense

- \$100,000.00

Capital Expense

Additional Headcount 1

Workforce Plan for Stations

2009 Report

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Executive Summary

At an average age 45, this group is starting to age. With the number of different asset classes and the number of different manufacturers, it takes at least 10 years experience in this field to be effective. The Stations group will have four employees that will reach the earliest unreduced retirement date by the spring of 2010. It is important to start developing new staff now so that we can rely on these new employees in the future.

For a good organizational plan to be successful, consideration must be given to the following:

- Employee engagement
- Clearly defined and communicated training plan
- Documented roles and accountabilities
- Align organizational structure to roles and accountabilities
- Integrate primary and secondary roles to avoid one of's
- Proactive to external and internal customers needs

Roles and accountabilities for each position have been produced and the proposed Station structure has five Electricians Apprentices and one additional Technician position recommended for hiring before year-end 2010.

The training plan is intended to provide a roadmap of training and valuable work experience to expose the Electricians and Technicians to a wide variety of operational processes and an opportunity to gather experience on station maintenance programs and capital work.

Stations Demographics

Assumptions

The following assumptions were made to produce the following report:

1. The technology is changing therefore the employee skills will have to change
2. One year overlapping of staff increases efficiencies and also allows for the transfer of experience/knowledge.
3. One additional Technician will be required before 2011 to accommodate the increased work due the changing technology and the increased demands for design of capital projects, commissioning and maintenance programs.
4. This plan does not include short-term support with special projects. Typically temporary staffing, consultants, and/or contractors may be required.
5. Five additional Apprentice Station Electricians will be required before 2011 to accommodate the expected retirees over the next three years.
6. No major role changes are anticipated within Stations with the exception of Stations facilities being recommended. If accountabilities change, then a resource assessment will be required to determine if the current staffing level is sufficient.
7. The Fitter Mechanic that is contracted to Energy Ottawa, returns at the beginning of 2011 and will reduce the number of Electricians required before 2011.
8. The Fitter Mechanic position will be phased out as those employees retire and we will replace them with Station Electrician positions.
9. Replace Supervisors with Stations staff, one Supervisor position to be replace with Electrician the year of retirement.

Background

The current Station team consists of one Manager, three Supervisors, fifteen Station Electricians, four Fitter Mechanics, three Station Technicians, and one Administration Assistant. The group is divided into four work locations – Albion, Merivale, Maplegrove and Carling. Refer to [Appendix A](#) for Organization Chart for active Station staff.

Table 1 indicates the average service years, the average age, and the total number of people in each job description for the station department.

J – Journeyman > 10 years I – Intermediate > 5 years A – Apprentice < 5years

Table 1

Job Description	Level	Data	Total
Station Electrician	J	Average of service in yrs at the end of 08/12/31	21.6
		Average of current age	46
		Count of Last Name	12
	I	Average of service in yrs at the end of 08/12/31	8
		Average of current age	35
		Count of Last Name	1
	A	Average of service in yrs at the end of 08/12/31	1.5
		Average of current age	23.7
		Count of Last Name	4
Coordinator		Average of service in yrs at the end of 08/12/31	34
		Average of current age	54
		Count of Last Name	1
Fitter Mechanic		Average of service in yrs at the end of 08/12/31	23.5
		Average of current age	45.5
		Count of Last Name	4
Station Technician		Average of service in yrs at the end of 08/12/31	10
		Average of current age	42.2
		Count of Last Name	4
Administrative Assistant		Average of service in yrs at the end of 08/12/31	16
		Average of current age	40
		Count of Last Name	1
Supervisor		Average of service in yrs at the end of 08/12/31	20.3
		Average of current age	51.3
		Count of Last Name	3
Manager		Average of service in yrs at the end of 08/12/31	33
		Average of current age	53
		Count of Last Name	1

Table 2 indicates the number of active staff with their earliest retirement dates for the station department.

Table 2

Job Description	Earliest Unreduced Retirement Date	Total
Station Electrician	2009	1
	2010	1
	2014	1
	2015	1
	2019	1
	2022	1
	2023	3
	2025	2
	2028	1
	2031	1
	2040	1
	2041	1
	Fitter Mechanic	2010
2021		2
2026		1
Manager	2011	1
Supervisor	2012	1
	2017	1
	2033	1
Station Technician	2017	1
	2027	1
	2028	1
Coordinator	2010	1
Administrative Assistant	2027	1

¹The earliest retirement dates received from Human Resources did not include eligible years of service from other employers. The earliest retirement dates obtained from Human Resources were updated with information from the people themselves. These dates are reflected in the Table 2.

Experience

There are fifteen active Station Electricians and over 80 percent are classified as Journeyman Electricians as indicated in Table 1. Although we do not fall under the regulations pertaining to Electricians (Reg.1051), table 3 specifies the number of Apprentices allowed based on the number of Journeymen Electricians employed:

Table 3

Column 1	Column 2
Number of Journeymen	Number of Apprentices Allowed
1	1
2	2
3	2
4	2
5	3
6	3
7	3
8	4

For every three Journeyman employed after the eighth Journeyman, one additional Apprentice may be employed. Over the next two years there is a possibility of having three Journeyman Electricians retire and having only eleven Journeyman Electricians with ten Apprentice Electricians. Although Hydro Ottawa does not fall under this regulation, we would be in contravention of it.

The Fitter Mechanic position was generated prior to amalgamation to fit the needs of maintaining the generating stations. The future of these positions will be to replace these positions with Electricians.

The Station Technician role is a complex one dealing with many technical issues of electrical design, maintenance, permits, legislative requirements, and overall project management. A new Station Technician requires extensive development and training to become an efficient and independent employee. The work over the last year dictated a need for more technical help with commissioning of new stations as well as switchgear replacements.

The average time it takes a Station Technician to be proficient in all skills required is approximately 10 years. The estimated time a Station Technician graduates from junior, intermediate and senior are as follows: 1 to 3 years for a junior, 3 to 5 years for an intermediate, and 5 to 10 years for a senior.

The Station Coordinator position has been instrumental in achieving efficiencies in the group. This position is typically a senior Journeyman Electrician and is shared throughout the group.

Refer to [Appendix B](#) for Job Description and Roles and Responsibility for the Electrician.

Refer to [Appendix C](#) for Job Description and Roles and Responsibility for the Fitter Mechanic.

Refer to [Appendix D](#) for Job Description and Roles and Responsibility for the Station Technician.

Refer to [Appendix E](#) for Job Description and Roles and Responsibility for the Coordinator.

Refer to [Appendix F](#) for Job Description and Roles and Responsibility for the Station Supervisor.

Refer to [Appendix G](#) for Job Description and Roles and Responsibility for the Stations Engineering Supervisor

Training

Station Technician

Although Station Technicians are college graduates from technician programs, further development specific to the station electrical environment is required. The existing Station Technicians are relatively young in station experience with an average of less than 5 years.

A clear and detailed training plan outlining the development steps required to move to a fully competent Station Technician is required. Ideally this program will ensure that current employees have the opportunity to move forward, and have the necessary skills to replace senior employees who are retiring.

Refer to [Appendix H](#) – Course Outline on training subject matter. A syllabus will be created for each course, and will be developed into course content later.

Station Electrician

Although Station Electricians are college graduates from technician programs or licensed Electricians graduates from the Ministry of Colleges and Universities, further development specific to the station electrical environment is required.

The Station Electrician position is an apprenticeship trade with a defined program outlined by The Mearie Group. Along with the defined classroom studies, the program requires eight thousand hours (8000 hrs.) of related experience. To ensure our Electricians perform the necessary experience, we have generated a log book to document the process (see [Appendix I](#)).

A clear and detailed training plan outlining the development steps required to move to a fully competent Station Electrician is required. Ideally this program will ensure that current employees have the opportunity to move forward, and have the necessary skills to replace senior employees who are retiring. (See Appendix J)

Workload

Hydro Ottawa faces a steady state or increase in workload for the staff for the following reasons:

- Capital work due to the asset management strategy has, and will continue to increase. The asset management plan shows that Hydro Ottawa's aging infrastructure requires increased levels of life extension and replacement work beginning within the next 5 years.
- Operation and maintenance work increases due to new stations, Cyrville, Terry Fox, Ellwood, Fallowfield and Richmond.
- O.Reg. 22/04 safety and environmental legislation requires a higher standard of care.
- The CEA Report *Addressing the Human Resource Challenge in the Electricity Industry, 2007*, illustrates an increase in labour resources in Canada to facilitate construction of additional generation and transmission infrastructure. Hydro Ottawa staff will be

increasingly engaged in constructing connections from embedded generators into the distribution system.

The following table outlines the amount of work planned for the next three years, it shows a steady increase in deficit man/hours required by the Stations group over the next three years:

- Hours for Apprentices assuming 60% productivity
- Hours available for Capital, Maintenance, or WFO assuming 72% productivity

Total Electricians Hours	41600	41600	41600
72%	29952	29952	29952
Total Apprentices Hours	10400	10400	10400
60%	6240	6240	6240
Capital	20584	21692	22448
WFO	1560	1560	1560
Maintenance	12500	12500	12500
Transformer Shop	1560	1560	1560
Other Departments	1560	1560	1560
Leftover Man/hours	-1572	-2680	-3436

The CEA Report *Canadian Electricity Human Resource Sector Study, 2004*, illustrates a shrinking supply of trained utility staff across the country. A similar situation also exists in the United States. This has created a limited ability to recruit good candidates from an externally trained labour pool. Staffing full time positions from this pool is not the best return for Hydro Ottawa's investment considering that it further compounds the demographics issue.

Retirees

Tables 4, 5, 6 and 7 show the steady decline of Station staff levels due to retirements and other losses. The projected competent staff levels indicate significant losses to the department within the next couple of years. Over the next two years there is a possibility of having four Journeyman Electricians retire and having only ten Journeyman Electricians with ten Apprentice Electricians, this makes it difficult to train competent staff.

Corporate knowledge and job processes are best passed on to new staff through their peers. New staff is estimated to be 30-40% as productive as experienced staff. Consequently, to maintain departmental production levels, new staff must be hired and trained for a period of time prior to retirement departures. The trend of anticipated staff departures necessitates a continuous hiring process for the following 20 years.

Loss of Employees

Although this report mainly concentrates on retiring, employees could leave the company to pursue other career opportunities, move within the company to other departments, or leave on

long term medical leave. The employees, who do not retire, will be replaced on a one to one relationship basis. While table 4 and 5 does not identify the loss of retiring supervisors/managers or the loss of employees due to internal movement, we have to assume that some of these positions will be filled by existing staff.

Table 4
Station Electricians, Mechanics and Coordinators

Year	Number eligible to retire in year	Cumulative eligible to retire	Population at beginning of year	Population at end of year if all that are eligible retire	New apprentices hired each year	Fully qualified staff graduating each year	Fully qualified staff graduating from program	Loss of Fully qualified staff each year	Total fully qualified staff at year-end	Total staff on payroll at year-end
2005	0	0	21	21	1			1	21	21
2006	0	0	21	21	2			0	21	23
2007	0	0	21	21	2			2	19	23
2008	0	0	21	21	0			0	19	23
2009	1	1	21	20	3			3	15	22
2010	3	4	20	17	5			0	12	24
2011	0	4	17	17	0	2	2	0	14	24
2012	0	4	17	17	1	2	4	1	15	24
2013	0	4	17	17	1	0	4	0	15	25
2014	1	5	17	16	1	2	6	0	16	25
2015	1	6	16	15	0	4	10	0	19	24
2016	0	6	15	15	0	1	11	0	20	24
2017	0	6	15	15	1	1	12	1	20	24
2018	0	6	15	15	1	1	13	0	21	25
2019	1	7	15	14	0	1	13	0	20	24
2020	0	7	14	14	2	1	14	0	21	26
2021	2	9	14	12	1	0	14	0	19	25
2022	1	10	12	11	3	1	15	0	19	27
2023	3	13	11	8	0	1	16	0	17	24
2024	0	13	8	8	0	1	17	0	18	24

Table 5

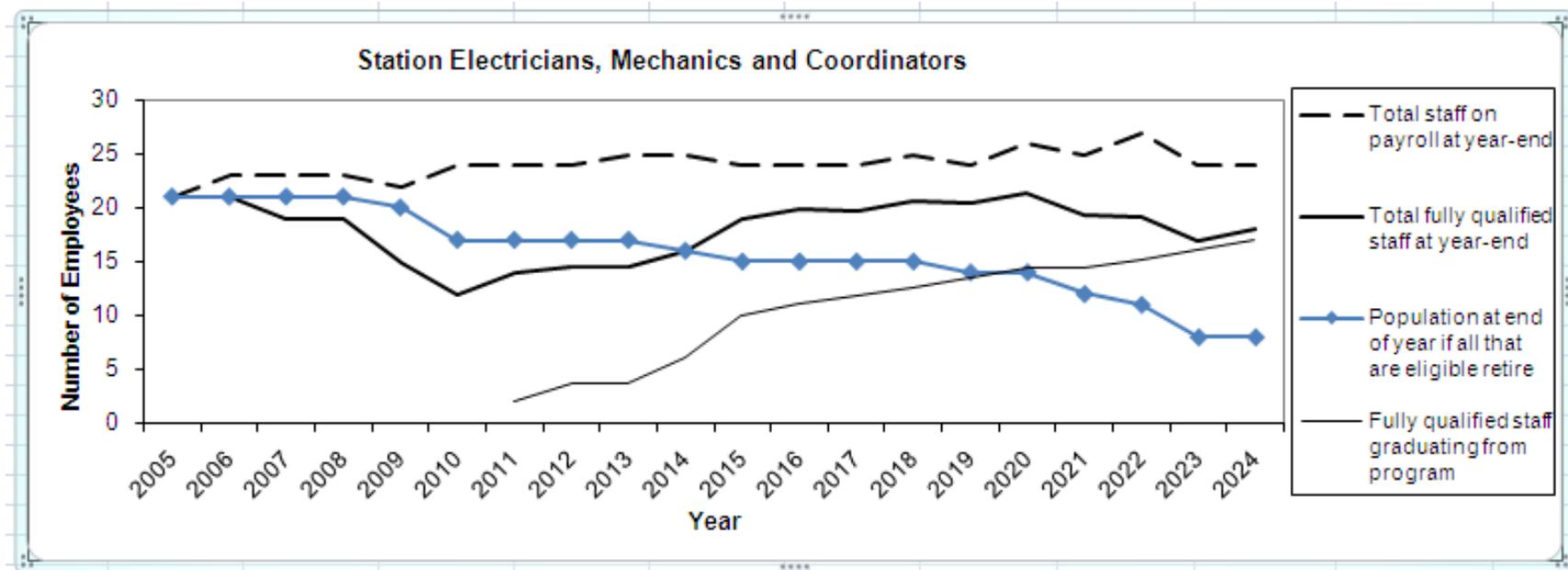
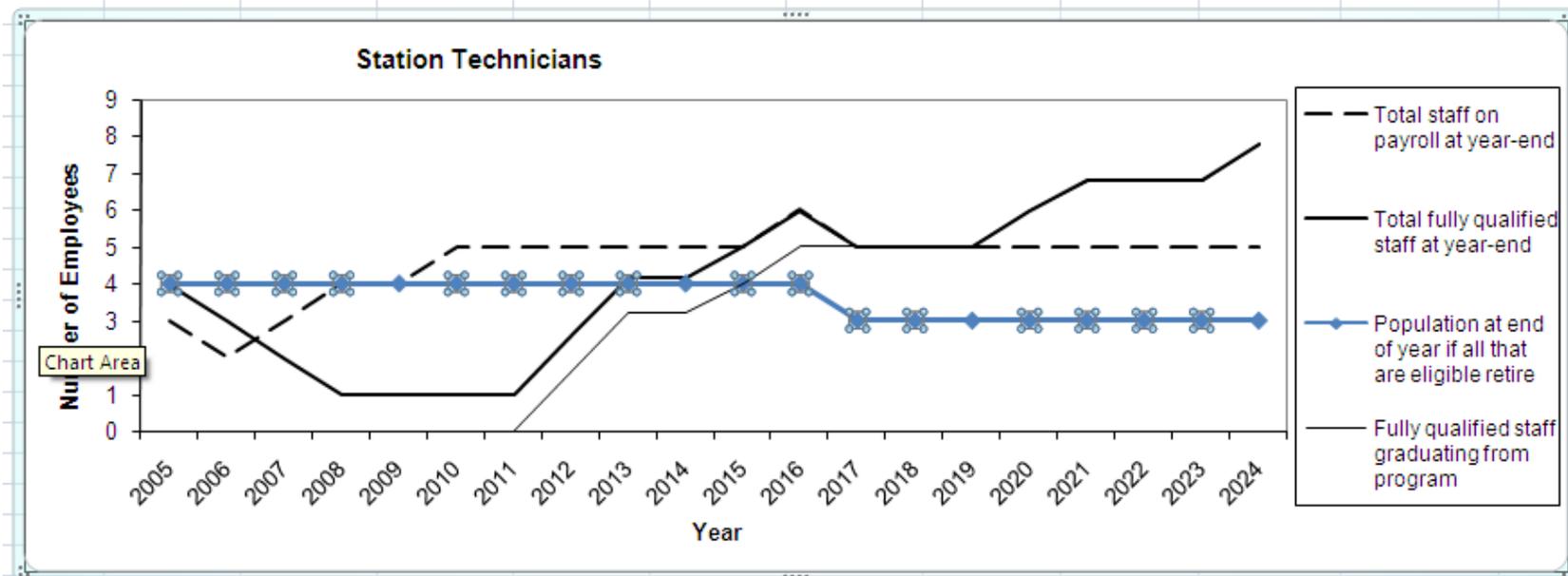


Table 6
Station Technicians

Year	Number eligible to retire in year	Cumulative eligible to retire	Population at beginning of year	Population at end of year if all that are eligible retire	New apprentices hired each year	Fully qualified staff graduating each year	Fully qualified staff graduating from program	Loss of Fully qualified staff each year	Total fully qualified staff at year-end	Total staff on payroll at year-end
2005	0	0	4	4	1			2	4	3
2006	0	0	4	4	0			1	3	2
2007	0	0	4	4	2			1	2	3
2008	0	0	4	4	2			1	1	4
2009	0	0	4	4	0			0	1	4
2010	0	0	4	4	1			0	1	5
2011	0	0	4	4	0	0	0	0	1	5
2012	0	0	4	4	0	2	2	0	3	5
2013	0	0	4	4	0	2	3	0	4	5
2014	0	0	4	4	0	0	3	0	4	5
2015	0	0	4	4	0	1	4	0	5	5
2016	0	0	4	4	1	1	5	0	6	6
2017	1	1	4	3	0	0	5	0	5	5
2018	0	1	3	3	0	0	5	0	5	5
2019	0	1	3	3	0	0	5	0	5	5
2020	0	1	3	3	0	1	6	0	6	5
2021	0	1	3	3	0	1	7	0	7	5
2022	0	1	3	3	0	0	7	0	7	5
2023	0	1	3	3	0	0	7	0	7	5
2024	0	1	3	3	0	1	8	0	8	5

Table 7



Recommendations

Prospective new employees

Become involved with development of community college courses that would produce graduates with utility specific training. Hydro Ottawa will not be able to acquire these necessary skills readily as indicate in the 2004 “Keeping the Future Bright” and the 2007 follow-up document “Addressing the Human Resource Challenge in the Electricity Industry” by the Canadian Electricity Association.

Support for Ontario Colleges & Universities

Station Technicians require post-secondary education to be able to perform their duties. Professional designation as a Certified Engineering Technologist (CET) or Certified Engineering Technician (C. Tech) is an employment requirement. Our primary source of recruitment for new Station Technicians is Ontario Colleges. It is extremely important that Hydro Ottawa support relevant Ontario college programs in Electrical Engineering Technology by

- a) hiring students from these programs (coop)
- b) providing input on College curriculum and course content that is relevant to our business
- c) providing teaching expertise in areas where knowledge is unique to power distribution utilities

Take a pro-active approach to recruiting new employees. Community colleges that offer CO-OP programs provide Hydro Ottawa with the best of both worlds. Hydro Ottawa is able to evaluate the student during the work placements and during the full-time employee probationary period. The CO-OP period could be as long as two years. University engineering students are also hired with Distribution Design to develop future engineers.

If the above is completed, Hydro Ottawa should have opportunity for at new technology graduates. Hydro Ottawa will need to be proactive in its hiring process and commence the process 6 to 8 months prior to the requirement of replacing retiring staff.

Combine Stations and Station Facilities

In order to find efficiencies in processes, increased productivity and improved customer service both internal and external, we have looked at synergies between Stations and Facilities. The existing structure makes it difficult to plan, budget and maintain the facilities of the stations. Station’s performs regular inspections of the stations both from an electrical point of view and from a civil point of view, which could improve planning and budgeting for maintenance and capital enhancements. Refer to Appendix K for a proposed draft of Roles and Accountabilities.

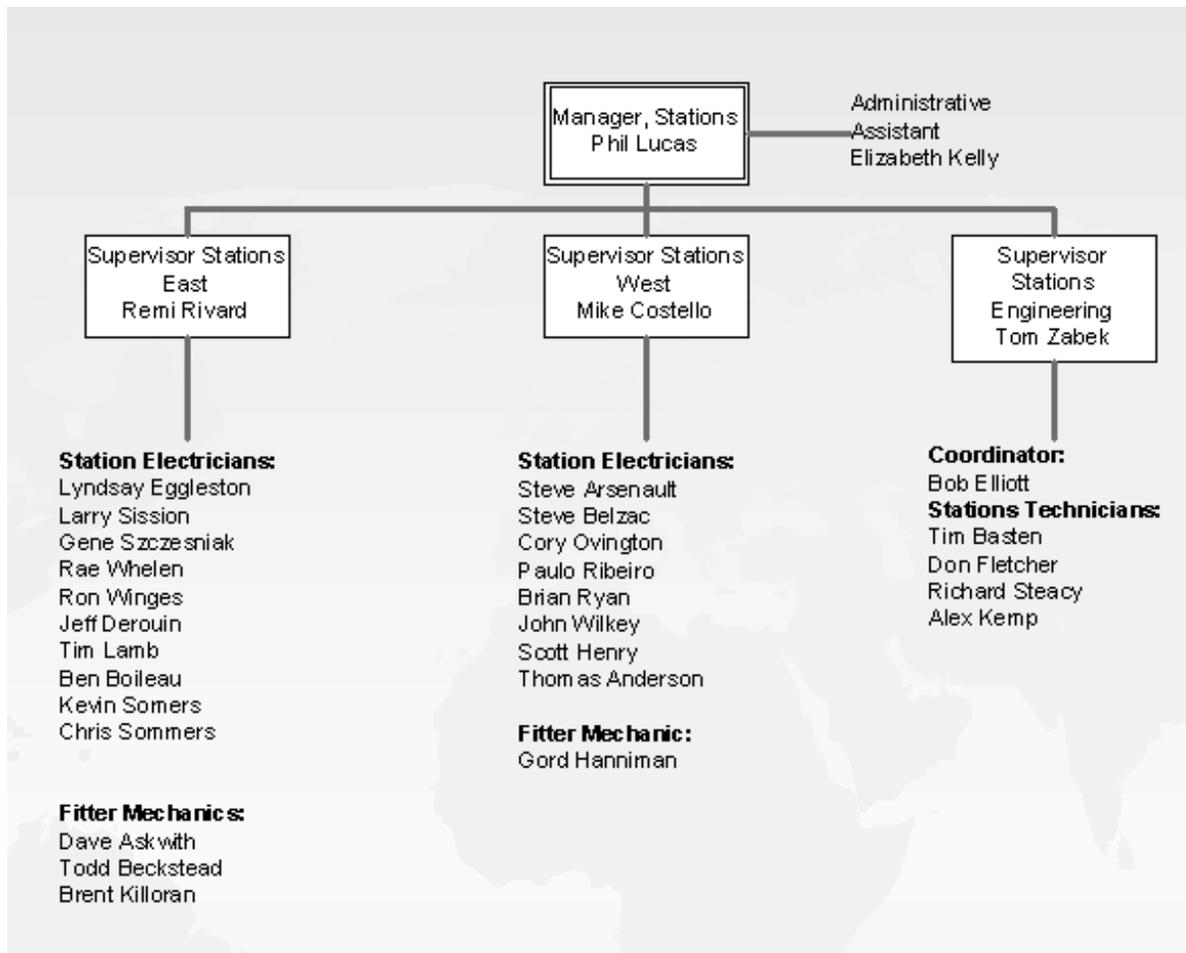
Staffing/Retirees

These hiring's should take place in early 2010. At an average age 45; this group is starting to age. With the number of different asset classes and the number of different manufacturers, it takes at least 10 years experience in this field to have an effective Station Electrician. The Stations group will have four employees that will reach the earliest unreduced retirement date by the end of 2010. It is important to start developing new staff now so that we can rely on these new employees in the future. The need for Fitter Mechanics has reduced since generation has been separated into a separate company at amalgamation. The role of the Fitter Mechanic is limited for the present and future needs of the section; therefore the position will become redundant and will be replaced with Electrician Mechanics.

The workload of the Station Technician has increased substantially over the years and hence there is a requirement to increase the numbers from four to five. The technology in station equipment is also changing to more intelligent electronic devices (IED's) and the technology will change depending on the manufacturer. There is also an increased work demand on the commissioning of new stations as well as replacement of existing switchgear. This became highlighted during the commissioning of Cyrville station this year.

Appendixes

Appendix A –Organizational Structure – Active Staff



Appendix B – Job Description Station Electrician**HYDRO OTTAWA****POSITION DESCRIPTION**

TITLE: Station Electrician

REPORTS TO: Stations Supervisor

LOCATION: Ottawa

SUMMARY: Reporting to the Stations Supervisor, the Station Electrician installs repairs and maintains electrical and mechanical plant in Hydro Ottawa stations, generating stations, buildings, structures, and property. There may be work in customer owned transformer vaults Other activities include work on construction of new stations, and additions and modifications to existing plant; troubleshoots and repairing a diverse variety of electric power distribution apparatus, protection and control devices, electronic equipment, and wiring on plant up to and including 230 KV

ACCOUNTABILITIES/RESPONSIBILITIES:

The essential responsibilities of the job include but are not necessarily restricted to the following:

- Install and maintain electrical power distribution switchgear, including switches, control relaying, battery banks, reclosers, circuit breakers, switching structures, enclosures, and related apparatus
- Install and maintain transformers and other electrical equipment and devices
- Install and maintain mechanical equipment, machinery, and devices used by Hydro Ottawa or external clients
- I Assist with the installation and maintenance of the Hydro Ottawa Supervisory Control and Data Acquisition (SCADA) Systems including radio communications
- Install and maintain electrical and electronic equipment and computer equipment including voltage regulators, power supplies, invertors, transducers, battery chargers, and controllers
- Install and maintain electrical and electronic wiring systems including raceways, AC distribution panels and other associated low voltage devices
- Install and maintain mechanical systems in Hydro Ottawa buildings which could include radiator and conservator systems, oil pumps, oil handling and testing, cooling fan systems, oil filtering systems, alignment of switch operators, gear box assemblies, preparing and installing new gaskets and charging SF6 inert gas systems
- Maintain and test customer equipment

- Troubleshoot and repair a diverse variety of electric power distribution apparatus, protection and control devices, electronic equipment and wiring
- Apply for work protection and hold work protection permits; performs switching orders as agent of system office
- Ensure work performed by contractors conforms with Hydro Ottawa work standards
- Service and repair electrical apparatus from aerial devices
- Assist in job planning including material purchasing
- Supervise and train personnel in areas of expertise
- Download and upload information from various IEDs
- Test and administer waste transformer oil and PCB contaminated oil
- Ability to design and modify protection and control circuits and other various electrical prints, to be implemented upon approval
- Install and maintain communication networks and devices
- Operate and work with a wide variety of unique test equipment like, SF6 reclaimer, ratio meters, P&C test sets, hipots, specific laptop computer test sets, micro ohm meters, capacitance and dissipation factor units
- Complete and submit a variety of documents such as time sheets, transformer failure reports, PCB storage reports, breaker and relay data sheets, battery maintenance sheets and customer vault information sheets.
- Perform other duties as may be assigned from time to time by Stations Supervisory Staff

REQUIRED QUALIFICATIONS

EDUCATION/EXPERIENCE:

- Minimum 2 year Community College Diploma in Electrical/Electronics or related field
- Certified by MEA as a Substation Electrician or Certified by the Ministry of Training, Colleges and Universities as an Electrician, Construction and Maintenance or provincial equivalency
- Experience in high voltage maintenance
- Valid Class D Driver's License
- Computer software training will be considered an asset
- Forklift certification
- RBD certification
- Propane certification
- CPR/First Aid certification

COMPETENCIES/SKILLS:

Demonstrated Ability to:

- Excellent communication skills combined with strong team work skills
- Able and willing to learn, adapt to new technologies, flexible when situations change
- Focus on providing excellent customer service by using processes and procedures that are customer oriented and seeking solutions to resolve service issues
- Demonstrating integrity, creativity, leadership and enthusiasm in achieving results directly and with other staff members
- Able to perform work according to the EUSA rule book, Occupational Health & Safety Act, utility work standards and the Ontario Electrical Safety Code
- Able to perform structure rescue and confined space rescue
- Understand WHMIS for use of appropriate PPE and recognize the associated hazards

LANGUAGE:

- Bilingualism will be considered an asset.

JOB SPECIFICATIONS**EFFORT:**

- Time will be split between indoor and outdoor substations involving moderate physical stress and working conditions due to job duties and weather conditions.
- Duties involve physical activities with a wide range of body mechanics

WORKING CONDITIONS:

- Indoor stations environment with moderate working conditions
- Outdoor stations environment which includes working in close proximity to live apparatus and from heights
- Involves overtime work on hydro and customer facilities
- Must take part in on-call rotation schedule
- Exposure to extreme heat and cold environments
- Exposure to designated substances like asbestos & PCBs
- Excessive noise situations
- Regularly exposed to moving mechanical parts and limited exposure to toxic or caustic chemicals
- Involves work in emergency conditions with exposure to a wide variety of physical and environmental factors

September 2001

Reporting Structure Changed to reflect new organizational structure - August 2005.

Appendix C – Job Description Fitter Mechanic

HYDRO OTTAWA

POSITION DESCRIPTION

TITLE: Fitter Mechanic

REPORTS TO: Station Supervisor

LOCATION: Ottawa

SUMMARY: Reporting to the Stations Supervisor, the Maintenance Mechanic's main function is to operate and maintain various mechanical systems throughout the City of Ottawa including the generation plant on the Ottawa River. Other activities include work on construction of new stations, and additions and modifications to existing plant

ACCOUNTABILITIES/RESPONSIBILITIES:

The essential responsibilities of the job include but are not necessarily restricted to the following:

- Any of the responsibilities listed may be performed for internal or external clients
- Work with Electricians performing mechanical and electrical work on Hydro Ottawa and customer equipment
- Perform detailed mechanical inspections of stations and generating facilities
- Diagnose operational problems
- Preparing list and source parts as required
- Fabricate, modify, design parts, components, accessories
- Using welding and steel cutting equipment
- Provide on-site support to electricians for the completion of stations and customer work
- Ensure that work conforms to all applicable regulatory requirements and in a timely and effective manner
- Certify work by signing inspection certificates, log books, etc.
- Maintain an inventory of hand & power tools and keeping work area in a safe and orderly condition
- Respect all safety rules & regulations including reporting unsafe conditions, recommending ways of improving the safety of the work environment, ensuring work practices are in compliance with the Occupational Health & Safety Act and any other applicable legislation
- Work overtime as required
- Ensure work performed by contractors conforms with Hydro Ottawa work and equipment standards
- Ability to read, modify and produce mechanical drawings

- Perform other duties as may be assigned from time to time by Stations Supervisory Staff
- Installation of portable grounding equipment

REQUIRED QUALIFICATIONS

EDUCATION/EXPERIENCE:

- High School Diploma
- Certificate of Fitter Mechanic or Millwright (Outline of courses required in Appendix A)
- 5 years relative experience
- Valid Class DZ Driver's License
- Computer software training will be considered an asset
- Forklift certification
- RBD certification
- Propane certification
- CPR/First Aid certification

COMPETENCIES/SKILLS:

- Knowledge of work protection codes that pertains to both mechanical and electrical fields
- Knowledge of electrical switching and grounding
- Knowledge of mechanical generation equipment
- Able to de-energize, disconnect and tag low voltage electrical equipment for the purposes of working on mechanical equipment
- Ability and willingness to participate as a cooperative member of the Network Services Team and in other teams requiring participation and entrepreneurial input such as the Health and Safety Committee
- Independent worker who is very organized, self-motivated and problem-solving skills
- Good reading (manuals) and verbal communication skills
- Excellent knowledge of safety regulation pertaining to hydraulic generation
- Competent in operation of ice rake machine and heavy equipment
- Able to perform structure rescue and confined space rescue
- Understand WHMIS for use of appropriate PPE and recognize the associated hazards
- Ability to hold work permits for mechanical isolation
- Fabrication of various mechanical parts and lifting devices

LANGUAGE:

- English
- Bilingualism (French and English) would be an asset

JOB SPECIFICATIONS**EFFORT:**

- Frequent heavy physical efforts, lifting objects, twisting, pulling, etc.

WORKING CONDITIONS:

- Exposure to water hazards
- Exposure to steel welding and cutting equipment including explosive gases in confined spaces
- Exposure to large rotating machines and electrical hazards
- Work with Electricians in outdoor/indoor stations, performing work in close proximity to live apparatus and working from heights
- Exposure to extreme heat and cold environments
- Exposure to designated substances like asbestos, lead & PCBs
- Excessive noise situations
- Regularly exposed to moving mechanical parts and exposure to toxic or caustic chemicals
- Involves work in emergency conditions with exposure to a wide variety of physical and environmental factors
- Must take part in on-call rotation schedule
- Frequently exposed to bacteriological areas like penstocks and sump pits
- High stress conditions during long extended overtime work for summer shutdowns, i.e.: 10 hour day/7 days a week

APPENDIX A

The following courses are the educational requirements for the Fitter Mechanic apprentice facilitated by Ontario Power Generation:

<u>Course Title</u>	<u>Duration</u>
Power Tools	Two Weeks
Machine Shop I	Two Weeks
Machine Shop II	Two Weeks
Machine Shop III	Two Weeks
Rigging	Two Weeks
Bearing and Lubrication	One Week
Pumps and Compressors	Two Weeks
Governors	Two Weeks
Welding	Three Weeks
Balancing and Alignment	Two Weeks

The above courses are subject to change at the discretion of Manager of Stations
September 28/01

Reporting Structure Changed to reflect new organizational structure -August 2005.

Appendix D – Job Description Station Technician**HYDRO OTTAWA****POSITION DESCRIPTION**

TITLE:	Station Technician
REPORTS TO:	Stations Engineering Supervisor
LOCATION:	City of Ottawa & Hydro Ottawa Service Territory
SUMMARY:	Reporting to the Supervisor Stations Engineering, the Station Technician is responsible for design and project management of all station projects that include protection and control, generation, and substation automation. In addition the Station Technician will be responsible for the design process for new station construction and modifications to existing stations. In conjunction with Station Engineering staff, review co-ordination studies, device setting and provide field support.

**ACCOUNTABILITIES/
RESPONSIBILITIES:**

- Coordinate the design, installation and maintenance of plant installed at the transformer stations, substations and generating stations.
- Efficiently completes projects assignments including design, estimating, work order production and project management functions.
- Preparation of Capital and Maintenance work orders for station construction.
- Prepares tenders, evaluates, awards, and administers contracts to internal and external work forces related to P&C, Generation, Substation Automation and Construction and Maintenance activities.
- Maintain and manage projects in accordance with established requirements associated with stations work.
- Provide quotations and proposals to internal and external customers for maintenance and repair work.
- Provide quotations and proposals for budget items and the purchasing of specialized equipment.
- Coordinate high voltage maintenance services to outside customers and prepare work orders for crews.
- Maintain stations Maintenance Management Software.
- Coordinates material management including evaluating, inspecting, testing and forecasting.

- Provide technical support for the Stations Department and other sections as required.
- Maintain compliance of internal and external work forces with all applicable legislation, particularly Health and Safety. Must take immediate corrective actions if dangerous practices are found, in accordance with documented procedures for such occurrences.
- Prepares and issues the Health, Safety and MOL documentation such as job planning, MOL project notification, etc.
- Be proficient in Stations technology and remain current with new equipment, methods and tools.
- Provide on-call support to System Operations and Stations Department.
- Drafting of technical standards and specifications.
- Perform field audits and conformance checks.
- Coordinate material and product management including evaluating, inspecting and testing.
- Prepare, maintain and modify protection and control circuits and other various electrical prints, to be implemented upon approval.
- Establish, recommend, and implement system protection design on fuse coordination and load balancing.
- Coordinate and maintenance of station diagrams with and Operations Division.
- Review and approve P&C device selection, implementation and SCADA interface;
- Other related duties as directed by the Supervisor related to the management of the Stations Network assets

EDUCATION/EXPERIENCE:

- OACETT certification as an Electrical Technician or Technologist with a minimum of 5 years utility experience specifically related to Stations and /or Protection and Control alternatively Associate Membership to OACETT will be considered provided the candidate is able to attain full certification within 5 years.
- Thorough knowledge of computer business software including MS Word, Excel and MS Access.
- Thorough knowledge of relay protection software, AutoCAD and/or Microstation
- Relevant experience with electrical distribution utility in roles related to electrical maintenance, asset management, and project management.
- Valid class G driver's license.
- Experience in administration and troubleshooting computing and communication systems, particularly Modbus, SCADA, DNP3 communication protocols, Unix and Windows NT operating systems, CAD, and Project Management software
- Ongoing updating of SCADA/communications/P&C skills and knowledge.
- Experience in the creation of substation related standards

EFFORT:

- Time will be split between office/PC work and fieldwork, including on-site evaluations at stations and customer premises.

- Deals with demanding customer, clients, contractors and consultants.
- Also provide technical training and support, and review, analyze and maintain stations database and co-ordination reports.
- Consistently produces accurate and complete Work Orders.
- Accomplishes multiple, concurrent work assignments, often with tight deadlines.
- Spends considerable time at the computer screen, but plans work to vary the routine.
- Drives to a variety of work sites.

WORKING CONDITIONS:

- Working in a busy office environment.
- Dealing with suppliers to review new equipment.
- Frequent field visits are required to review projects completion and meet with developers, contractors and consultants.
- Physical environment consists of sitting at a computer in an office environment, shop and/or fieldwork.
- Work in close proximity to exposed energized high voltage equipment.
- Must take part in the Stations on – call rotation schedule.
- Involves overtime work on customer and Hydro facilities.
- Involves work in emergency conditions with exposure to a wide variety of physical and environmental factors.
- Independent workload and work schedule.
- Stressed conditions to meet the financial and timely objectives associated with competitive stations work.
- Some exposure to inclement weather.
- Rubber glove work on high voltage equipment maybe required.

Revised: June 13, 2005

Reporting Structure Changed to reflect new organizational structure -August 2005

Appendix E – Job Description Coordinator

HYDRO OTTAWA

POSITION DESCRIPTION

TITLE: Coordinator

REPORTS TO: Stations Supervisor

SUMMARY: The Coordinator plans, schedules, and coordinates fieldwork supporting their supervisor's area of responsibility. In addition to performing the work of the trade, Coordinators help coordinate the work activities of a group or groups of trades' people to complete assigned tasks or projects on schedule and on budget. The coordinator will be a centralized communication contact for internal and external business partners. The Coordinator assists the supervisor in ensuring the work is carried out in a safe productive manner, in accordance with Company policy and procedures.

The Coordinator is customer focused, self-motivated, enjoys working in a team environment and has excellent technical, analytical, problem solving, organizational and negotiation skills, as well as excellent oral and written communication skills. A strong understanding of Hydro Ottawa's Stations electrical system is essential.

ACCOUNTABILITIES / RESPONSIBILITIES:

- The essential responsibilities of the job include, not restricted to, the following:
- Set up daily work to maximize efficiencies and productivity.
- Ensure scheduled work is completed safely, efficiently, and in a timely manner under the guidance of the Supervisor
- Frequently adjust schedule to accommodate priority calls and meet tight deadlines.
- Modify work plans and methods as appropriate in a changing work environment.
- Complete written work/project documentation, including road cut permits, traffic plans, OTO's, etc.
- Assist the Supervisor in estimating, budgeting, forecasting and tracking both capital and operating projects.
- Work as part of a team and provide leadership to various work crews, including coordination of daily activities, on site problem solving, etc...
- Assist with sectional, internal and external communications
- Ensure appropriate safe work practices are followed, and recommend improvements.

- Provide daily reports of items requiring attention and unsafe conditions.
- Provide weekly reports to their supervisor and to Project Coordination regarding work progress.
- Perform tradesperson work activities.
- Respond to emergency situations.
- Operate company vehicles as required.
- Liaise and Coordinate work activities with external and internal work groups (contractors, customers and Hydro Ottawa departments).

REQUIRED QUALIFICATIONS

EDUCATION / EXPERIENCE:

- Journeyman level certification in appropriate trade and minimum 5 years journeyman experience.
- Working knowledge of computer software such as, Ms Word, Excel , MS Access and JDE
- Valid drivers license to operate the class of vehicle used in the position.

COMPETENCIES / SKILLS:

- Ability to plan work and respond to changing priorities.
- Direct activities towards timely completion; adjust priorities or resources as required.
- Problem solving skills.
- Ability to support change management strategies.
- Learn and adapt to new technologies, flexible when situations change, able to work in an ambiguous environment.
- Advanced software skills including word-processing, electronic mail calendaring, spreadsheet, database skills and JDE.
- Knowledge of industry, regulatory or legislated standards.
- Knowledge of external or internal work procedures, service level agreements policies and practices
- Knowledge of health and safety procedures and practices.
- Ability to gain the cooperation of others.
- Ability and willingness to work in a team environment
- Effective oral and written communication skills.
- Demonstrated leadership and team building skills.
- Effectively present information in one-on-one and small group situations to customers, clients, and other employees of the organization.
- Willingness and ability to participate in team tasks and work projects.
- Recommend the appropriate tools and take initiative in purchasing tools and equipment
- Perform all other duties as assigned by management staff as may be required on occasion.

LANGUAGE:

- English essential
- French is an asset.

Job Specifications

EFFORT:

- The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job.
- Work is mainly in the field in all weather conditions.
- High degree of sensory attention required for performing and monitoring work in hazardous conditions.
- Ability to lift up 40 kg.
- Good close, distance, colour and peripheral vision.

WORKING CONDITIONS:

- Working conditions are the same as those experienced as other trade staff, however as a Coordinator there is a requirement to be attentive to work being performed by others, including the work progress compared to the schedule and budget.
- Regularly exposed to outside weather conditions.
- Frequently exposed to risk to risk of electrical shock
- Occasionally exposed to moving mechanical parts and toxic or caustic chemicals.
- The noise level in the work environment is usually moderate.
- The combination of intensity, duration and frequency of concentration is such that it requires considerable attention.
- The combination of intensity, duration and frequency of exposure to physical and environmental factors is such that it results in moderate stress.

Revised: January 2005

Appendix F - Job Description Station Supervisor**HYDRO OTTAWA****POSITION DESCRIPTION**

TITLE: Supervisor Stations

REPORTS TO: Manager Stations

LOCATION: Ottawa

SUMMARY: The Stations Supervisor – Electrical, supervises staff responsible for the installation, maintenance and repair of electrical apparatus at 70 substations, ensuring that all safety rules, regulations and standards are followed.

ACCOUNTABILITIES/RESPONSIBILITIES:

The essential responsibilities of the job include:

- The Stations Supervisor is responsible for staff comprised of electricians, mechanics, and apprentices and an annual budget of \$2-3 million.
- Ensure a clear understanding of job requirements and risks outlined in the work order by following up with Operations staff, developing work orders and risk management plans.
- Continuously review and implement human resource planning by assisting with the selection of staff, ensuring appropriate training is provided, delegating tasks and assignments, defining goals, communicating feedback on performance and ensuring strict adherence to all Health and Safety standards and other applicable laws and regulations.
- Ensure the quantity and quality of the work progresses, as it should by adjusting schedules as required to deal with emergencies and other unforeseen problems.
- Ensure that work is completed safely and in the event of accident ensure quick response including follow up with authorities and safety representative, completion of paperwork.
- Ensure completion and certification of jobs for payment to Contractors by signing off on work orders.
- Ensure planned maintenance and reconciliation of utilization against work orders for costing and charging purposes by keeping records of labour costs, equipment and material used and year of production.
- Ensure the systematic energizing of premises and load redistribution by coordinating switching orders or arranging with operators for hold-offs

- Ensure power outages are minimized by using maximum judgment in planning repairs, by coordinating switching orders to isolate the problem areas, by rerouting power to minimize customer irritants and by cooperating with other utilities in handling emergency calls.
- Supervise responses to emergency calls including participating in the manager-on-call roster; interfacing with Hydro One and other utilities that may be affected; interfacing with Customer Communications and/or the public regarding complaints and requests for information.
- Ensure improved efficiency, effectiveness, productivity, quality, accuracy and safety by recommending new or improved work methods and techniques, maintaining working tools and equipment in sound operational condition, and writing out work orders for repairs and recovery costs, as well as keeping records of contractor work and billings, preparing reports for the Ministry of Labour and supervising designated contractors.

REQUIRED QUALIFICATIONS

EDUCATION/EXPERIENCE:

- Community College diploma or OACETT certification with a minimum of 5 years in utility operations, or
- Substation Electrician certification with 10 years experience.

COMPETENCIES/SKILLS:

Demonstrated Ability to:

- Act decisively to translate organizational and departmental strategies into concrete action plans;
- Direct activities towards timely completion, adjust priorities or resources as required;
- Bring excellence to internal or external clients by focusing efforts on discovering and meeting their needs;
- Apply principles of change management to assist staff in dealing with change and transition; shift priorities and adapt to changes to meet organizational and program requirements;
- Proven ability to communicate effectively and concisely, both orally, electronically (e-mail) and in writing;
- Focus on providing excellent customer service by using processes and procedures that are customer oriented and seeking solutions to resolve service issues;
- Lead by example, demonstrating integrity, creativity and enthusiasm in achieving results directly and through staff work teams;
- Recruit, develop and motivate top-caliber employees, delegate responsibility effectively and evaluate performance

LANGUAGE:

- Bilingualism is an asset.

JOB SPECIFICATIONS

EFFORT:

- Work does not require extended physical effort.
- There is a requirement to drive to various sites.
- Concentrated levels of attention are required. Examples include proofreading, analyzing information, trouble shooting, actively listening to problem solve, making presentations.

WORKING CONDITIONS:

- Normal office environment.
- Disruptions to lifestyle resulting from adjusting hours of work to accommodate emergencies, short deadlines or travel. Travel is normally within the Hydro Ottawa service territory however there may be an occasional requirement for traveling greater distances.
- Visits to the field under hazardous conditions at any time of day or night.

Updated: June 16, 2005

Appendix G - Job Description Supervisor Stations Engineering

HYDRO OTTAWA

POSITION DESCRIPTION

TITLE: Supervisor Stations Engineering

REPORTS TO: Manager Stations

SUMMARY: The Supervisor, Stations Engineering supervises staff responsible for the installation, maintenance and repair of electrical apparatus at all Hydro Ottawa substations, ensuring that all safety rules, regulations and standards are followed.

ACCOUNTABILITIES/RESPONSIBILITIES:

The essential responsibilities of the job include:

- The Supervisor, Stations Engineering is responsible for staff comprised of technicians and the associated OM&A budgets.
- Ensure a clear understanding of job requirements and risks outlined in the work order by following up with Operations staff, developing work orders and risk management plans.
- Continuously review and implement human resource planning by assisting with the selection of staff, ensuring appropriate training is provided, delegating tasks and assignments, defining goals, communicating feedback on performance and ensuring strict adherence to all Health and Safety standards and other applicable laws and regulations.
- Ensure the quantity and quality of the work progresses, as it should by adjusting schedules as required to deal with emergencies and other unforeseen problems.
- Ensure that work is completed safely and in the event of accident ensure quick response including follow up with authorities and safety representative, completion of paperwork.
- Ensure completion and certification of jobs for payment to Contractors by signing off on work orders.
- Ensure planned maintenance and reconciliation of utilization against work orders for costing and charging purposes by keeping records of labour costs, equipment and material used and year of production.
- Ensure the systematic energizing of premises and load redistribution by coordinating switching orders or arranging with operators for hold-offs

- Ensure power outages are minimized by using maximum judgment in planning repairs, by coordinating switching orders to isolate the problem areas, by rerouting power to minimize customer irritants and by cooperating with other utilities in handling emergency calls.
- Supervise responses to emergency calls including participating in the management-on-call roster; interfacing with Hydro One and other utilities that may be affected; interfacing with Customer Communications and/or the public regarding complaints and requests for information.
- Ensure improved efficiency, effectiveness, productivity, quality, accuracy and safety by recommending new or improved work methods and techniques, maintaining working tools and equipment in sound operational condition, and writing out work orders for repairs and recovery costs, as well as keeping records of contractor work and billings, preparing reports for the Ministry of Labour and supervising designated contractors.
- Liaison with the Asset Planning as it pertains to capital and maintenance programs.
- Ensures that all regulatory compliance issues concerning stations are met.
- Ensure project management methodology for projects/programs are followed.

REQUIRED QUALIFICATIONS

EDUCATION/EXPERIENCE:

- Community College diploma or OACETT certification with a minimum of 5 years in utility operations, or
- Substation Electrician certification with 10 years experience.

COMPETENCIES/SKILLS:

Demonstrated Ability to:

- Act decisively to translate organizational and departmental strategies into concrete action plans;
- Direct activities towards timely completion, adjust priorities or resources as required;
- Bring excellence to internal or external clients by focusing efforts on discovering and meeting their needs;
- Apply principles of change management to assist staff in dealing with change and transition; shift priorities and adapt to changes to meet organizational and program requirements;
- Proven ability to communicate effectively and concisely, both orally, electronically (e-mail) and in writing;
- Focus on providing excellent customer service by using processes and procedures that are customer oriented and seeking solutions to resolve service issues;

- Lead by example, demonstrating integrity, creativity and enthusiasm in achieving results directly and through staff work teams;
- Recruit, develop and motivate top-calibre employees, delegate responsibility effectively and evaluate performance
- Apply project management principles to projects/programs

LANGUAGE:

Bilingualism is an asset.

JOB SPECIFICATIONS**EFFORT:**

- Work does not require extended physical effort.
- There is a requirement to drive to various sites.
- Concentrated levels of attention are required. Examples include proofreading, analyzing information, trouble shooting, actively listening to problem solve, making presentations.

WORKING CONDITIONS:

- Normal office environment.
- Disruptions to lifestyle resulting from adjusting hours of work to accommodate emergencies, short deadlines or travel. Travel is normally within the Hydro Ottawa service territory however there may be an occasional requirement for traveling greater distances.
- Visits to the field under hazardous conditions at any time of day or night.

Updated: January 25, 2008

Appendix H – Station Technician Training Program

1. Station Technician Position Description

The position of Station Technician assigned to Stations Engineering Department is responsible for technical support of engineering and construction of stations projects. Station technician skill set requires broad and in-depth technical knowledge of power system theory and practice, understanding of advanced software and hardware platform for substation control and automation, proficiency with system studies for the purpose of protective device coordination and general project management capabilities. Significant area of responsibility of this position requires technical support of field crews with day-to-day activities and guidance in installation and maintenance as well as testing of various substation devices. Understanding, troubleshooting and configuring of data communications in substations is another area of responsibility that is being performed as part of regular duties.

In addition to the technical area of expertise, station technicians are required to manage capital and maintenance projects, prepare cost estimates, order non-stock materials, outline design requirements, conduct project progress and pre-construction meetings and financially track project progress utilizing JDE. As part of project management, station technicians are responsible for project closure process where as-built drawings are sent for electronic mark-ups, final station prints produced and filed, equipment database updated, lessons learned register compiled, etc.

2. Essential skills

Position of Station Technician in Hydro Ottawa is somewhat unique as compared to other departments, which is due to the requirement of in-depth technical knowledge and experience necessary to perform the job. In addition to technical skills, technicians carry out regular day-to-day project management duties. Technical skills required to perform the regular duties are as follows.

- Ability to carry out system short circuit calculations using per-unit system quantities.
- Utilize software tools such as PSAF and CYME TCC to carry out short circuit studies and interpretation of results.
- Carry out protection coordination studies utilizing software such as CYME TCC and ASPEN.
- Detailed understanding of principles of protection systems such
 - overcurrent,
 - directional overcurrent,
 - bus overcurrent,
 - bus high impedance differential,
 - bus low impedance differential
 - transformer differential,
 - distance protection,
 - generator interconnection protection requirements,

- transfer trip.
- breaker failure

- Working knowledge of communications system such as fibreoptic, telephone lines and modems.
- Working knowledge of station equipment communications protocols such TCP/IP, DNP3, mirrored bits.
- Understanding of vectorial relationship of three phase systems and application to transformer differential relaying testing.
- Understanding of basic principles of CT application such as, polarity, saturation curves, burdens, knee-point curves, to bus protection systems.
- Understanding principals of operation of high voltage circuit breakers, circuit switchers and metalclad switchgear.
- Ability to troubleshoot breaker control DC and AC schematics.

In their day-to-day functions Station Technicians utilize the following specialized software applications and software driven hardware:

Microprocessor protective relays:

- SEL351A,
- SEL351R,
- SEL321,
- SEL587,
- SEL387,
- SEL587Z,
- SEL2100
- RFL9745
- Areva P143,
- Areva P631,
- Nxtphase FPRO
- DPU2000

Specialized software applications:

- SEL Inc. AcSELeerator.
- SEL5031
- Micom S1
- ASE2000 communications test set.
- PSAF/CYME TCC
- ASPEN relay database

Relay testing- software driven equipment:

- Manta three phase unit
- Omnicron three phase unit

Non-technical skills required to perform project management functions are as follows:

- Thorough familiarity with HOL Project Coach process.
- Versatility with JDE software
- Working knowledge of GIS software.

3. Essential Training

Utility substation engineering is a highly specialized technical field that constantly develops as the technology evolves and there are no college programs available that would train and prepare candidates for these positions. Large utility companies such as Hydro One have allocated resources and undertake their own training programs through apprentice positions. These companies put their employees through rigorous 5-year training program, attending on average 2-3 week course for every year of the apprentice program. Smaller companies, such as Hydro Ottawa have to rely on available external training programs, which are mostly held in the US. It is of utmost importance to recognize the need for proper training and continuing education of both experienced and newly hired employees. Properly trained employees are critical in Stations field with large margins for error and high potential impact on outage duration and frequency.

In the Stations Engineering department of four, only one person is deemed fully qualified to perform all outlined above functions. The remainder of the group has varying degree of qualifications. An ongoing shortage of qualified people in the industry, coupled with HOL staff qualifications discrepancy, leaves Hydro Ottawa in vulnerable position should those fully qualified decide to depart for other organizations.

Hydro Ottawa would not be able to develop its own formalized training program, nor would this be justified considering the number of Station Technician positions. We therefore have to rely on external resources to be able to develop our staff to the level where they are competent and proficient in the work they perform. Although the cost may seem high, it is still a lot less than training PLMs, Station Electricians, or an in-house training program. Relay manufacturers such as Schweitzer are offering the most comprehensive training program in the US. These courses are usually 3 day in duration at a cost of \$3,500CAD (including travel expenses), and between four or five sessions are required to learn the basics of Stations Engineering field. Once Technicians reach the basic level of competence, they should keep up their skills and knowledge by periodically attending application courses and conferences.

In addition to the technical training, Technicians should be included in HOL internal training programs such as Project Coach, JDE, GIS and leadership courses.

4. Training Budgetary Requirements

Budget Year	2008	2009	2010	2011	2012
Training Cost	\$5,000	\$15,000	\$15,000	\$15,000	\$15,000

STATION TECHNICIAN- Detailed Training Requirements

Course Name	Course Type	Employee Name			
		Richard Steacy	Tim Basten	Don Fletcher	Alex Kemp
SEL University PROT 301	Technical- External	2007	N/R	2008	2009
SEL University PROT 403		2009	N/R	2009	2009
SEL University PROT 411		2010	2009	2010	2010
SEL University APP 351		2011	2010	2011	2011
SEL University APP 351R		2011	2010	2011	2012
SEL University APP 87		2012	2008	2012	2012
SEL University TST101		2009	N/R	2010	2010
SEL University TST103		2009	2009	2009	2011
SEL Substation Communications		2011	2011	N/R	2011
AutoCAD		N/R	N/R	N/R	2009
ASE Testing software		2010	N/R	N/R	2010
CYME/PSAF		Technical- Internal	2009	2009	2009
Omicron Relay testing hardware/software	2011		2009	2010	2010
Manta Relay Testing Hardware/Software	2009		2009	2009	2009
Standards and Specifications	Ongoing				
Distribution System Knowledge	Ongoing				
Project Coach	Non-Technical- Internal	2009	2009	2009	2009
JDE- Work Orders and Estimating, Reporting.		2009	2009	2009	2009
HS&E Training		2009	2009	2009	2009
GIS- basic		2010	2009	2010	2009
Work Protection Code		2009	2009	2009	2009

Appendix I – Station Electrician Training Plan

Training	Apprentice Duration	Journeyman Duration
		Rotation
Transformer Shop	3 Months	1 year
Oil handling & documenting PCB & Non PCB		
Trans testing & repairs		
CT & PT ratio		
Station Inspections	3 Months	1 year
Empower training & documenting		
Station orientation		
Station Breaker & Relay Maint	3 Months	6 Months-1 year
Breaker servicing		
Relay calibration & testing		
Print verification, Singleline & Connection DWG's		
PowerTransformer & Tapchanger Maint	3 Months	6 Months
Trans ratio , meggering & resistance testing		
Tapchanger maintenance & oil filtering		
Circuit Switcher Maintenance	2 Months	2 Months
Servicing		
Verify operation		
Recloser Maintenance	3 Months	6 Months
Service		
Verify operation		
Electronic Relay Testing	2 Months	2 Months
Assisting technicians		
Relay configuration & testing		
Software setup		
SCADA Training	2 Months	2 Months
Assisting SCADA technicians		
RTU configuration		
Troubleshooting		
Trouble calls		
Capital Crew		1 year
Projects		

Note: Apprentice Training done in coordination with MEARIE training Levels I II III

Appendix J – Station Electrician Experience Log

Substation Experience Log

Hydro Ottawa Limited

Development date: 2006

Printing Date: 2007

This document is the responsibility of the Substation Employee and must be kept in good condition. It must also be able to be produced at the discretion of Management.

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Preface

Hydro Ottawa Stations Department has created this experience logbook using the Apprenticeship Training Standards Powerline Maintainer and the Industrial Electrician Apprenticeship Standards from the Ministry of Training, Colleges and Universities (MTCU) as a guide. The care and maintenance of this logbook is the joint responsibility of the Substation Employee and Hydro Ottawa Management. This logbook was specifically developed for documenting experience that the Substation Employee has acquired in his/her employment at Hydro Ottawa.

The back of this logbook contains a section that holds wallet certificates of training which must be used by the Substation Employee to place his/her wallet certificates which includes formal training established by Safety and Training. This logbook will be available for regular review by both the employee and their supervisor.

Important Instructions

1. All experience should be recorded by the Substation Employee, confirmed by Trainer and dated at the time of completion.
2. The log only has to be signed off after the first cycle for each skill that has been completed.
3. The cycle for each skill is defined in the logbook and a new wallet certificate will be issued with the appropriate date. The old wallet card should be removed from the back of this logbook and the new one inserted.
4. This document is not transferable.
5. In using these experience/training standards, trainers will be able to ensure the Substation Employee is developing skills detailed for the position.
6. Management will decide who the trainer will be for each skill.

Demonstrate Safe Work Practices

Objective

To identify, control and eliminate potential hazards. To select, wear, adjust and maintain personal protective equipment. Perform evacuation and rescue procedures. Demonstrate good housekeeping techniques. Provide training and instruction, work within safe physical conditions and ensure a safe electrical working environment.

Skill

To identify, control and eliminate potential hazards

Demonstrate Cycle - Once

Must be able to generate tailboard sheets identifying all the hazards associated with the job and what controls will be in place to control those hazards. Remember that PPE is a last resort for controls.

Date Completed

Trainer Signature

Employee Signature

To select, wear, adjust and maintain personal protective equipment

Demonstrate Cycle - Once

Must be able to select the appropriate PPE for the specific job related tasks. Must be able to adjust/test the PPE for correct fit and optimum protection. Must be able to demonstrate good maintenance practices for all PPE. PPE includes supplied FR clothing and that all undergarments will be of 100% cotton.

Date Completed

Trainer Signature

Employee Signature

Perform rescue procedures

Demonstrate Cycle – Semi-annually

Participate fully in structure rescue practices

Date Completed

Trainer Signature

Employee Signature

Practice good housekeeping techniques

Demonstrate Cycle - Once

Ensure a clean work site by organizing the equipment, tools and material in a manor that will not constitute a hazard. All equipment and material must be stored on the work site and storage areas according to all safety legislation, as well by the manufacturer's manuals.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Provide training and instruction

Demonstrate Cycle - Once

Demonstrate skills to others. Provide feedback to Management for assessing personal competencies. Recommend areas for required training.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Work within safe physical conditions

Demonstrate Cycle – Every 5 years

Apply the correct body mechanics climbing ladders, scaffolds and structures. Use the appropriate devices to help lift and move equipment and material.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Ensure a safe electrical working environment

Demonstrate Cycle – Every 3 years

Familiar with E.U.S.A. rules and safe work practices relating to safe limits of approach. Demonstrates understanding of all rules as it pertains to this activity. Knows and abides by the safe limits of approach and what barriers to put in place. Can safely perform approved grounding and bonding procedures for Station equipment.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Communicate and Interact with Others

Objective

To demonstrate proper communication skills with colleagues, management and external groups. Must report in a timely fashion all hazards, incidents, accidents and environmental impacts. Display professionalism while maintaining required documentation

Skill

To demonstrate proper communication skills with colleagues

Demonstrate Cycle - Once

This skill includes all facets of the organization, from internal working groups up to and including the executive level. Good listening, oral, written and body language skills are required.

Date Completed

Trainer Signature

Employee Signature

To demonstrate proper communication skills with customers & external groups

Demonstrate Cycle - Once

This skill includes the general public, contractors, commercial, suppliers and institutional groups. Good listening, oral, written and electronic methods to respond to outages, work processes enquiries, complaints and requests ensuring that the information is communicated in accordance to company policy and work instructions.

Date Completed

Trainer Signature

Employee Signature

Report incidents, accidents, hazards and environmental impacts

Demonstrate Cycle – Every 5 years

Knows the process and obligations for reporting incidents, accidents, hazards and environmental impacts.

Date Completed

Trainer Signature

Employee Signature

Maintain documentation

Demonstrate Cycle – Every 3 years

To include work orders, service requests, time sheets, log sheets, vehicle inspections, tailboards, utility work protection code information, maintenance records, and commissioning sheets in accordance with design specifications, government regulations, manufacturer’s instructions and company policy’s and procedures.

Date Completed

Trainer Signature

Employee Signature

Prepare Job Plan

Objective

To be able to identify worksite considerations, determine job conditions and to establish the correct material and equipment related to the job.

Skill

Identify worksite considerations

Demonstrate Cycle - Once

To include underground plant, overhead plant, 3rd party plant, control devices and protection devices. Must also take into account outages, interruptions, customers, worksite safety in compliance with government regulations, and company policy's and procedures.

Date Completed

Trainer Signature

Employee Signature

Determine job conditions

Demonstrate Cycle - Once

To include proper job methods, assignments of job tasks, and be able to identify hazards associated with each job task and the requirement for hazard elimination or proper barriers to mitigate hazards. Knows the responsibilities of each worker for an effective job completion in compliance with government regulations, and company policy's and procedures.

Date Completed

Trainer Signature

Employee Signature

Determine material and equipment

Demonstrate Cycle - Once

Assess instructions from project plan summaries, project plans, and job assessments for proper materials and equipment to be used are the proper ones for the tasks identified in accordance with company standards, procedures and work practices.

Date Completed

Trainer Signature

Employee Signature

Establish proper work protection

Demonstrate Cycle – Every 3 years

Assess the job for proper work protection and tagging in accordance with UWPC, legislation and company procedures.

Date Completed

Trainer Signature

Employee Signature

Select, Operate and Maintain Tools & Equipment

Objective

Select, operate and maintain tools and equipment. Be able to inspect and maintain hand and small power tools. Be also able to operate, inspect and maintain vehicles and auxiliary equipment. Specific equipment to be proficient in are the gas reclaimer, hypot, phasing sticks, fall arrest, infrared camera, meggar, oil hypot, ct saturation tester, ratiometer, Alber battery test set, single phase relay test set and 3 phase relay test set.

Skill

Select, operate and maintain tools and equipment

Demonstrate Cycle - Once

Understanding the safety features of hand tools and small power tools. Being able to inspect those tools and identify defects, unsafe conditions or deficiencies.

Demonstrate proper cleaning, repairing, adjusting, lubricating, testing and storing of those tools. Ensure tools are used properly according to manufacturer's instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Operate, inspect and maintain vehicles and auxiliary equipment

Demonstrate Cycle – Every 5 years

Perform vehicle pre-trip inspections, knowing load requirements, license requirements and requirements for auxiliary equipment, according to all applicable legislation and company procedures. Demonstrate good housekeeping skills for vehicles and auxiliary equipment.

Date Completed

Trainer Signature

Employee Signature

Select, operate and maintain the gas reclaimer

Demonstrate Cycle – Every 5 years

Understanding the safety features of the gas reclaimer. Being able to inspect that equipment and identify defects, unsafe conditions or deficiencies. Demonstrate proper cleaning, repairing, adjusting, testing and storing of that equipment. Ensure it is used properly according to manufacturer’s instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Select, operate and maintain the hypot

Demonstrate Cycle - Once

Understanding the safety features of the hypot. Being able to inspect that equipment and identify defects, unsafe conditions or deficiencies. Demonstrate proper cleaning, repairing, adjusting, testing and storing of that equipment. Ensure it is used properly according to manufacturer’s instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Select, operate and maintain the phasing sticks

Demonstrate Cycle - Once

Understanding the safety features of the phasing sticks. Being able to inspect that equipment and identify defects, unsafe conditions or deficiencies. Demonstrate proper cleaning, repairing, adjusting, testing and storing of that equipment. Ensure it is used properly according to manufacturer’s instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Select, operate and maintain the transformer fall arrest

Demonstrate Cycle - Once

Understanding the safety features of the transformer fall arrest. Being able to inspect that equipment and identify defects, unsafe conditions or deficiencies. Demonstrate proper cleaning, repairing, adjusting, testing and storing of that equipment. Ensure it is used properly according to manufacturer's instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Select, operate and maintain the infrared camera

Demonstrate Cycle - Once

Understanding the safety features of the infrared camera. Being able to inspect that equipment and identify defects, unsafe conditions or deficiencies. Demonstrate proper cleaning, repairing, adjusting, testing and storing of that equipment. Ensure it is used properly according to manufacturer's instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Select, operate and maintain the meggar

Demonstrate Cycle - Once

Understanding the safety features of the meggar. Being able to inspect that equipment and identify defects, unsafe conditions or deficiencies. Demonstrate proper cleaning, repairing, adjusting, testing and storing of that equipment. Ensure it is used properly according to manufacturer's instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Select, operate and maintain the oil hypot

Demonstrate Cycle - Once

Understanding the safety features of the oil hypot. Being able to inspect that equipment and identify defects, unsafe conditions or deficiencies. Demonstrate proper cleaning, repairing, adjusting, testing and storing of that equipment. Ensure it is used properly according to manufacturer's instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Select, operate and maintain the ct saturation tester

Demonstrate Cycle - Once

Understanding the safety features of the ct saturation tester. Being able to inspect that equipment and identify defects, unsafe conditions or deficiencies. Demonstrate proper cleaning, repairing, adjusting, testing and storing of that equipment. Ensure it is used properly according to manufacturer's instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Select, operate and maintain the ratiometer

Demonstrate Cycle - Once

Understanding the safety features of the ratiometer. Being able to inspect that equipment and identify defects, unsafe conditions or deficiencies. Demonstrate proper cleaning, repairing, adjusting, testing and storing of that equipment. Ensure it is used properly according to manufacturer's instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Select, operate and maintain the single phase relay test set

Demonstrate Cycle - Once

Understanding the safety features of the single-phase relay test set. Being able to inspect that equipment and identify defects, unsafe conditions or deficiencies. Demonstrate proper cleaning, repairing, adjusting, testing and storing of that equipment. Ensure it is used properly according to manufacturer's instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Select, operate and maintain the 3 phase relay test set

Demonstrate Cycle - Once

Understanding the safety features of the 3-phase relay test set. Being able to inspect that equipment and identify defects, unsafe conditions or deficiencies. Demonstrate proper cleaning, repairing, adjusting, testing and storing of that equipment. Ensure it is used properly according to manufacturer's instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Select, operate and maintain the Alber battery test set

Demonstrate Cycle - Once

Understanding the safety features of the Alber battery test set. Being able to inspect that equipment and identify defects, unsafe conditions or deficiencies. Demonstrate proper cleaning, repairing, adjusting, testing and storing of that equipment. Ensure it is used properly according to manufacturer's instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Select, Maintain and Operate Rigging and Hoisting Equipment

Objective

Select the required rigging and hoisting equipment. Maintain and inspect rigging and hoisting equipment. Perform the lifting or moving operation.

Skill

Select the required rigging and hoisting equipment

Demonstrate Cycle – Every 3 years

To include power or hydraulic winches, hoists, blocks, ropes, shackles, chains, snatch blocks, slings, dynamometers, mobile hydraulic equipment and RBDs. Must be able to calculate weights to be lifted and ensure correct positioning of equipment to ensure compliance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Maintain and inspect rigging and hoisting equipment

Demonstrate Cycle – Every 3 years

Perform pre-use inspections to identify load bearing status, structural defects, deficiencies, stress cracks and misalignment of parts. Demonstrate proper cleaning, repairing, adjusting, lubricating, testing and documenting in log books rigging and hoisting equipment.

Date Completed

Trainer Signature

Employee Signature

Perform the lifting or moving operation

Demonstrate Cycle - Once

Demonstrate the lift or move by using the required rigging and hoisting equipment in accordance with all applicable regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Perform bucket rescue techniques

Demonstrate Cycle – Semi-annually

Participate fully in bucket rescue practices

Date Completed

Trainer Signature

Employee Signature

Maintain Overhead and Underground Switches & Reclosers

Objective

Being able to maintain padmounted switches, to includes CPP, Vista, S&C and Reyrolle. Being able to maintain overhead switches, to include SCADA Mates, S&C and VBM. Being able to maintain overhead reclosers, to include Viper, Cooper and Lexington. Maintenance practices must be demonstrated in accordance with regulations, manufacturers instructions and company procedures.

Skill

Being able to maintain CPP padmounted switches

Demonstrate Cycle - Once

Being able to maintain and troubleshoot CPP padmounted switches in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to maintain Vista padmounted switches

Demonstrate Cycle - Once

Being able to maintain and troubleshoot Vista padmounted switches in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to maintain S&C padmounted switches

Demonstrate Cycle - Once

Being able to maintain and troubleshoot S&C padmounted switches in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to maintain Reyrolle padmounted switches

Demonstrate Cycle - Once

Being able to maintain and troubleshoot Reyrolle padmounted switches in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to maintain SCADA Mate overhead switches

Demonstrate Cycle - Once

Being able to maintain and troubleshoot SCADA Mate overhead switches in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to maintain S&C overhead switches

Demonstrate Cycle - Once

Being able to maintain and troubleshoot S&C overhead switches in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to maintain VBM overhead switches

Demonstrate Cycle - Once

Being able to maintain and troubleshoot VBM overhead switches in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to maintain Viper overhead reclosers

Demonstrate Cycle - Once

Being able to maintain and troubleshoot Viper overhead reclosers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to maintain Cooper overhead reclosers

Demonstrate Cycle - Once

Being able to maintain and troubleshoot Cooper overhead reclosers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to maintain Lexington overhead reclosers

Demonstrate Cycle - Once

Being able to maintain and troubleshoot Lexington overhead reclosers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Install, Troubleshoot & Maintain Overhead & Underground Switch & Recloser Controllers

Objective

Being able to install and maintain controllers for overhead and underground switches, to include controllers for overhead reclosers as well. Maintenance practices must be demonstrated in accordance with regulations, manufacturers instructions and company procedures.

Skill

Being able to install, troubleshoot & maintain CPP padmounted switch controllers

Demonstrate Cycle - Once

Being able to maintain and troubleshoot CPP padmounted switch controllers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, troubleshoot & maintain Vista padmounted switch controllers

Demonstrate Cycle - Once

Being able to maintain and troubleshoot Vista padmounted switch controllers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, troubleshoot & maintain SICO overhead switch controllers

Demonstrate Cycle – Once

Being able to maintain and troubleshoot SICO overhead switch controllers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, troubleshoot & maintain G&W overhead switch controllers

Demonstrate Cycle - Once

Being able to maintain and troubleshoot G&W overhead switch controllers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, troubleshoot & maintain TYCO overhead recloser controllers

Demonstrate Cycle - Once

Being able to maintain and troubleshoot TYCO overhead recloser controllers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, troubleshoot & maintain Cooper overhead recloser controllers

Demonstrate Cycle - Once

Being able to maintain and troubleshoot Cooper overhead recloser controllers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, troubleshoot & maintain Lexington overhead recloser controllers

Demonstrate Cycle - Once

Being able to maintain and troubleshoot Lexington overhead recloser controllers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Install and Maintain Breakers and Circuit Switchers

Objective

Being able to install, maintain and troubleshoot air, gas and oil circuit breakers in accordance with regulations, manufacturers instructions and company procedures.

Skill

Air circuit breakers

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot air circuit breakers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Oil circuit breakers

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot oil circuit breakers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Gas circuit breakers

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot gas circuit breakers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Circuit switchers

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot circuit switchers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Install, Maintain and Test Station Relays

Objective

Being able to install, maintain and troubleshoot a variety of manufacturers' induction disc relays, electronic relays and intelligent electronic devices in accordance with regulations, manufacturers instructions and company procedures.

Skill

Being able to install, maintain and troubleshoot GE IAC relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot GE induction disc relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot Reyrolle IAC relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot Reyrolle induction disc relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot Westinghouse CO relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot Westinghouse induction disc relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot Alstom MBCH 12 differential relays
Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot Alstom MBCH 12 differential in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot Alstom KBCH 120 differential relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot Alstom KBCH 120 differential in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot MCGG electronic relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot MCGG electronic relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot P123 electronic relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot P123 electronic relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot REJ 525 electronic relays

Demonstrate Cycle – Once

Being able to install, maintain and troubleshoot REJ 525 electronic relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot SPAJ 140 electronic relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot SPAJ 140 electronic relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot Circuit Shield electronic relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot Circuit Shield electronic relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot MVTR reclosing relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot MVTR reclosing relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot ACR reclosing relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot ACR reclosing relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot NLR reclosing relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot NLR reclosing relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot AREVA P142 relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot the different model P142 IED relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot AREVA P143 relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot the different model P143 IED relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot AREVA P631 relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot the different model P631 IED relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot Schweitzer 351R IED relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot the different model 351R IED relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot Schweitzer 351A IED relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot the different model 351A IED relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot Schweitzer 351 IED relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot the different model 351 IED relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot Schweitzer 2100 IED relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot the different model 2100 IED relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot Schweitzer 321 IED relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot the different model 321 IED relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot Schweitzer 587 IED relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot the different model 587 IED relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot F-PRO 5100 IED relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot the different model F-PRO 5100 IED relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot T-PRO 8700 IED relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot the different model T-PRO 8700 IED relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot ABB DPU relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot the different model DPU IED relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot ABB TPU relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot the different model TPU IED relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Install, Maintain and Test Station Transformers

Objective

Being able to install, maintain and troubleshoot a variety of manufacturers' power transformers and associated auxiliary devices in accordance with regulations, manufacturers instructions and company procedures.

Skill

Being able to install, maintain and troubleshoot power transformers

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot power transformers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot GE on-line oil monitor

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot GE on-line oil monitors in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot Kelman on-line oil monitor

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot Kelman on-line oil monitors in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot gas relays

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot gas relays in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot on-load tapchangers

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot on-load tapchangers and associated controls in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to perform oil sampling on transformers and on-load tapchangers

Demonstrate Cycle - Once

Being able to perform oil sampling on transformers and on-load tapchangers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being able to install, maintain and troubleshoot filtration systems for on-load tapchangers and transformers

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot filtration systems on transformers and on-load tapchangers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Install, Maintain and Test RTUs

Objective

Being able to install, maintain and troubleshoot a variety of manufacturers' RTUs in accordance with regulations, manufacturers instructions and company procedures.

Skill

Being able to install, maintain and troubleshoot GE RTUs

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot GE RTUs in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot Schweitzer RTUs

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot Schweitzer RTUs in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot Survalent RTUs

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot Survalent RTUs in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot Sage RTUs

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot Sage RTUs in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Install, Maintain and Test Battery Systems

Objective

Being able to install, maintain and troubleshoot a variety of manufacturers' battery systems in accordance with regulations, manufacturers instructions and company procedures.

Skill

Being able to install, maintain and troubleshoot batteries

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot (to include battery grounds) a variety of manufacturers' batteries in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot battery chargers

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot a variety of manufacturers' battery chargers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Install, Maintain and Troubleshoot Control Systems

Objective

Being able to install, maintain and troubleshoot a variety of control circuits, to include relays, pilot devices, wireless systems, transducers, sensors and circuit boards in accordance with regulations, manufacturers instructions and company procedures.

Skill

Being able to install, maintain and troubleshoot relay control circuits

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot relay control circuits in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot pilot devices

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot pilot devices in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot wireless systems

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot wireless systems in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot transducers

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot transducers in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot sensors

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot sensors in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Being able to install, maintain and troubleshoot circuit boards

Demonstrate Cycle - Once

Being able to install, maintain and troubleshoot circuit boards in accordance with regulations, manufacturers instructions and company procedures.

Date Completed

Trainer Signature

Employee Signature

Computer Knowledge

Objective

Being knowledgeable in a variety of computer software applications and demonstrating basic functions of that software.

Skill

Being able to perform basic functions in JD Edwards

Demonstrate Cycle - Once

Demonstrate the use of equipment, work orders and procurement applications of JD Edwards

Date Completed

Trainer Signature

Employee Signature

Being able to perform basic functions in Microsoft Office

Demonstrate Cycle - Once

Demonstrate the use of windows 2000, excel, word and outlook applications of Microsoft Office

Date Completed

Trainer Signature

Employee Signature

Being able to perform basic functions in Transformer Oil Analysis

Demonstrate Cycle - Once

Demonstrate the use of Transformer Oil Analysis applications

Date Completed

Trainer Signature

Employee Signature

Being able to perform basic functions in Empower software for station inspections

Demonstrate Cycle - Once

Demonstrate the use of Empower software applications

Date Completed

Trainer Signature

Employee Signature

Standard Work Methods

Objective

Being knowledgeable in a variety of standard work methods (SWM) and demonstrating basic functions of the SWM.

Skill

Being knowledgeable and demonstrates basic functions in “Structure Rescue” SWM

Formal training of the “Structure Rescue” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Being knowledgeable and demonstrates basic functions in “Switching” SWM

Formal training of the “Switching” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Being knowledgeable and demonstrates basic functions in “Hazardous Gas Monitoring System” SWM

Formal training of the “Hazardous Gas Monitoring System” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Being knowledgeable and demonstrates basic functions in “Battery Banks” SWM

Formal training of the “Battery Banks” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Being knowledgeable and demonstrates basic functions in “High Potential Testing” SWM

Formal training of the “High Potential Testing” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Being knowledgeable and demonstrates basic functions in “Battery Chargers” SWM

Formal training of the “Battery Chargers” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Being knowledgeable and demonstrates basic functions in “Oil Sampling” SWM

Formal training of the “Oil Sampling” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Being knowledgeable and demonstrates basic functions in “Testing On-load Tapchangers” SWM

Formal training of the “Testing On-load Tapchangers” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being knowledgeable and demonstrates basic functions in “Testing Relays” SWM

Formal training of the “Testing Relays” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being knowledgeable and demonstrates basic functions in “Testing Station Transformers” SWM

Formal training of the “Testing Station Transformers” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being knowledgeable and demonstrates basic functions in “Thermographic Surveys” SWM

Formal training of the “Thermographic Surveys” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed	Trainer Signature	Employee Signature
_____	_____	_____

Being knowledgeable and demonstrates basic functions in “Remotely testing breakers” SWM

Formal training of the “Remotely testing breakers” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Being knowledgeable and demonstrates basic functions in “Testing SF6 Circuit Breaker” SWM

Formal training of the “Testing SF6 Circuit Breaker” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Being knowledgeable and demonstrates basic functions in “Testing Oil Circuit Breaker” SWM

Formal training of the “Testing Oil Circuit Breaker” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Being knowledgeable and demonstrates basic functions in “Testing Air Circuit Breaker” SWM

Formal training of the “Testing Air Circuit Breaker” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Being knowledgeable and demonstrates basic functions in “SC Vista Switchgear Testing” SWM

Formal training of the “SC Vista Switchgear Testing” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Being knowledgeable and demonstrates basic functions in “Testing New Distribution Transformers” SWM

Formal training of the “Testing New Distribution Transformers” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Being knowledgeable and demonstrates basic functions in “Testing Used Distribution Transformers” SWM

Formal training of the “Testing Used Distribution Transformers” SWM and has demonstrated basic functions outlined in the SWM.

Date Completed

Trainer Signature

Employee Signature

Business Case: Asset Planning Headcount

Executive Sponsor: Norm Fraser/Bill Bennett

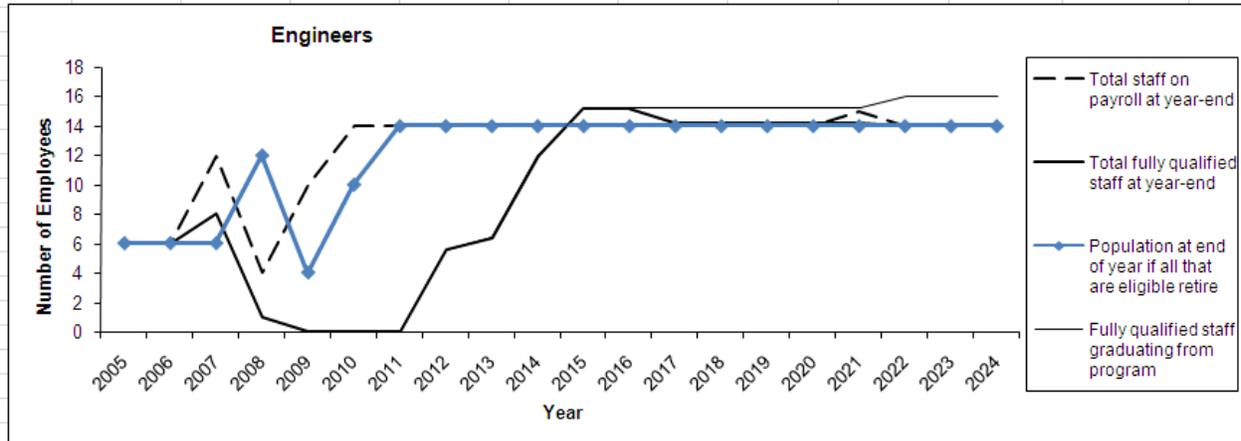
Description of the project:

Increase the headcount for Engineers from eleven to fourteen. The reorganization of the group in 2009 had two senior Engineers become Supervisors, which decreased the amount of working Engineers from thirteen to eleven.

- Increase Engineers by three for 2010
- Hire a co-op Engineer position for 2010
- Replace Engineers due to retention, keep the numbers at fourteen
- Replace Engineers when they get promoted to other positions at Hydro Ottawa, keep the numbers at fourteen

The following tables, displays the losses and additions of Engineers and qualified Engineers:

Year	Number eligible to retire in year	Cumulative eligible to retire	Population at beginning of year	Population at end of year if all that are eligible retire	New apprentices hired each year	Fully qualified staff graduating each year	Fully qualified staff graduating from program	Loss of Fully qualified staff each year	Total fully qualified staff at year-end	Total staff on payroll at year-end
2005	0	0	6	6	0			0	6	6
2006	0	0	6	6	0			0	6	6
2007	0	0	6	6	7	3		1	8	12
2008	0	0	12	12	1	2		7	3	6
2009	0	0	6	6	7	0		3	0	10
2010	0	0	10	10	4	0		0	0	14
2011	0	0	14	14	0	0	0	0	0	14
2012	0	0	14	14	0	6	6	0	6	14
2013	0	0	14	14	0	1	6	0	6	14
2014	0	0	14	14	0	6	12	0	12	14
2015	0	0	14	14	0	3	15	0	15	14
2016	0	0	14	14	0	0	15	0	15	14
2017	0	0	14	14	1	0	15	1	14	14
2018	0	0	14	14	0	0	15	0	14	14
2019	0	0	14	14	0	0	15	0	14	14
2020	0	0	14	14	0	0	15	0	14	14
2021	0	0	14	14	1	0	15	0	14	15
2022	1	1	15	14	0	1	16	0	14	14
2023	0	1	14	14	0	0	16	0	14	14
2024	0	1	14	14	0	0	16	0	14	14



- The Engineers are the future leaders Hydro Ottawa and will be logical choice to fill positions as DAM Managers and Director Positions reach their retirement eligibility dates, see table below:

Name	Department	Position Title	Earliest Un-Reduced Retirement Date
Bennett, Bill	Distribution Design	Director Distribution Asset Management	Dec-2013
Kropp, Franz	Distribution Planning	Manager Asset Planning	May-2031
Malone, Casey	Distribution Design	Manager Distribution Design	Jun-2013
Voisine, Louis	Assets Planning	Manager GIS and Distribution Records	Dec-2018
Lucas, Phil	Distribution Planning	Manager Stations	Oct-2011
Magill, Glen	Distribution Planning	Manager System Office	Mar-2016

Why are we doing this project?

- It is important to start developing new staff now so that we can rely on these new employees in the near future
- With the implementation of the Green Energy Act comes an added need for Engineering for smart grid initiatives and distributed generation
- Greater interface with City staff for urban intensification and underground wiring programs
- Developing, deploying and analyzing maintenance programs and reports to support the asset management plan

What are the consequences of not doing the project?

- Corporate knowledge and job processes are best passed on to new staff through their peers
- New staff is estimated to be 30-40% as productive as experienced staff (see Engineer Development Plan for further details)
- Not being able to fully implement new smart grid initiatives
- Distributed generation projects will take time away from other planning initiatives
- Not implementing testing and inspection programs and managing and tracking the information to help with better Asset Management decisions

Length of the project?

What is the financial impact of the project?

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Revenue					
Operating Expense					
Capital Expense					
Additional Headcount		4			

- This headcount does not include loss of existing staff due to retention or other positions at Hydro Ottawa but does includes a temporary co-op position

Workforce Plan for Distribution Design

2009 Report

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Executive Summary

“... almost 40 percent of the electricity sector’s non-support staff will be eligible to retire by 2014.” Quoted from the February 2007 CEA Report *Addressing the Human Resource Challenge in the Electricity Industry*.

System Designers deploy the assets management strategy and meet customer connection requirements with their design and project management skills, in a timely and efficient manner. With amalgamation, System Designers have taken on more project administration with the introduction of JD Edwards Financial System, GIS Graphical Information System, O.Reg. 22/04, City of Ottawa requirements, and Health and Safety. Two subsequent buyouts in 2003 and 2004 resulted in key staff leaving with knowledge that is gained only through time. This put stress on the remaining resources.

For Hydro Ottawa to succeed in the future, System Designers must be hired prior to the exodus of retirees in order to transfer historical knowledge from seasoned staff to new staff. With the focus on productivity, efficiency, safety and customer satisfaction, the need to develop and retain our resources is overlooked. These people are the future of Hydro Ottawa and will be in a better position to help the organization achieve its long term vision when they are nurtured through time. Retention of talented employees is also a concern since Hydro Ottawa is one of many utilities across Canada in this situation. Current employees may be courted by other utilities because there is a lack of skilled resources.

Note that this program pertains to the succession of System Designers and Distribution Technical Analyst only. The Inspectors and Service Layout Agents are supported through the existing Power Line Maintainer (PLM) or Cable Installer pool. Typically supervisors are filled through the existing design pool or other company staff, and managers are filled from design supervisors or other company staff.

Table 1 indicates average service years, the average age, and the total number of people in each job description. This information has been updated to correct the retirement dates in Table 2 by requesting the actual retirement dates from employees (refer to sub-note at the bottom of Table 2). The average service years and average age are skewed because some recent hires are older but have little experience, or have not been credited with their past service.

To maintain the existing complement of staff, Table 3 indicates the number of new hires needed each year. Since it is difficult to hire fully qualified personnel, new staff and retiring staff will need to be overlapped by a minimum of 1 to 3 years. This will allow for the transfer of knowledge from senior staff to junior staff.

Distribution Design Demographics

Assumptions

The following assumptions were made to produce the following report:

1. Current staffing levels are constant over long term.
2. The workload is increasing for Demand and Sustainment projects along with greater project management general requirements.
3. Overlapping of staff increases efficiencies and also allows for the transfer of experience/knowledge.
4. One additional Inspector will be required before 2010 to accommodate the increased work due to telecommunication companies using HOL infrastructure, ie. poles, underground system, and substations. This FTE will be transferred from CAM.
5. Relief for Inspector holidays and workload peaks is supplied from construction line crews.
6. There are no material changes to Hydro Ottawa's service territory, service level agreements, or new major initiatives (such as smart meters or GIS system development).
7. No Major role change with Distribution Design. If its accountabilities change, then a resource assessment will be required to determine if the current staffing level is sufficient.
8. This plan does not include short-term support with special projects. Typically temporary staffing, consultants, and/or contractors may be required.
9. Long term engagement of part time retirees can not be sustained continually to support technical standards development to meet O.Reg. 22/04. Full time permanent staff positions are required to full fill this on-going requirement.

Background

The current distribution design team consists of one Manager, seven Supervisors, twenty-two System Designers, one Distribution Technical Analyst, five Inspectors, five Service Layout Agents, one Field Technician, and one Administration Assistant. The distribution group is sub-divided into seven departments – Commercial, Residential, Underground, Overhead, Service Layouts, Standards, and Process Administration. Refer to [Appendix A](#) for Organization Chart for active Distribution Design staff.

Table 1 indicates the average service years, the average age, and the total number of people in each job description for the design department.

Table 1

Job Description	Level	Data	Total
Admin Assistant	(blank)	Average of service in yrs 2009/12/31	0
		Average of current age	25
		Count of Last Name	1
System Designer	J	Average of service in yrs 2009/12/31	5
		Average of current age	36
		Count of Last Name	11
	I	Average of service in yrs 2009/12/31	19
		Average of current age	48
		Count of Last Name	7
	S	Average of service in yrs 2009/12/31	25
		Average of current age	52
		Count of Last Name	4
Inspector	(blank)	Average of service in yrs 2009/12/31	32
		Average of current age	53
		Count of Last Name	5
Service Layout	(blank)	Average of service in yrs 2009/12/31	25
		Average of current age	52
		Count of Last Name	5
Field Technician	(blank)	Average of service in yrs 2009/12/31	9
		Average of current age	53
		Count of Last Name	1
Supervisor	(blank)	Average of service in yrs 2009/12/31	22
		Average of current age	48
		Count of Last Name	7
Manager	(blank)	Average of service in yrs 2009/12/31	20
		Average of current age	51
		Count of Last Name	1
Dist. Tech. Analyst	(blank)	Average of service in yrs 2009/12/31	19
		Average of current age	52
		Count of Last Name	1

Table 2 indicates the number of active staff with their earliest retirement dates for the design department.

Table 2

Job Description	Earliest Unreduced Retirement Date	Total
Admin Assistant	2038	1
Field Technician	2011	1
Inspector	2011	1
	2012	2
	2014	1
	2016	1
Manager	2013	1
Supervisor	2010	2
	2011	1
	2015	1
	2018	1
	2023	1
	2029	1
System Designer	2009	1
	2010	1
	2011	1
	2012	1
	2013	1
	2016	1
	2017	1
	2018	1
	2019	1
	2020	1
	2023	1
	2024	1
	2028	1
	2029	1
	2031	1
	2032	1
2036	2	
2037	2	
2038	2	
Service Layout	2010	1
	2016	1
	2017	2
	2030	1
Dist. Tech. Analyst	2019	1

¹The earliest retirement dates received from Human Resources did not include eligible years of service from other employers. The earliest retirement dates obtained from Human Resources were updated with information from the people themselves. These dates are reflected in the Table 2.

Experience

There are twenty-two active System Designers and over 50 percent are classified as junior designers as indicated in Table 1. The range of experience for the junior designers is a few months to a few years. Some of the intermediate Systems Designers are also lacking in overall experience.

The System Designer role is a complex one dealing with many technical issues of electrical and civil design, permits, legislative requirements, customer service, and overall project management. A new System Designer requires extensive development and training to become an efficient and independent employee.

The average time it takes a System Designer to be proficient in all aspects of design is approximately 10 years. The estimated time a System Designer graduates from junior, intermediate and senior are as follows: 1 to 3 years for a junior, 3 to 5 years for an intermediate, and 5 to 10 years for a senior.

Refer to [Appendix C](#) for Job Description and Roles and Responsibility for the System Designer.

Training

Although System Designers are college graduates from technologist programs, further development specific to the electrical distribution environment is required.

A clear and detailed training program outlining the development steps required to move from junior designer to intermediate designer, and to senior designer is required. Ideally this program will ensure that current employees have the opportunity to move forward, and have the necessary skills to replace senior employees who are retiring.

Refer to [Appendix B](#) – Course Outline on training subject matter. A syllabus will be created for each course, and will be developed into course content later.

Workload

Hydro Ottawa faces increases in workload for the staff for the following reasons:

- Capital work due to the asset management strategy has, and will continue to increase. The asset management plan shows that Hydro Ottawa's aging infrastructure requires increased levels of life extension and replacement work beginning within the next 5 years.
- Demand work continues to increase with residential and commercial developments.
- Smart Grid and Distribution Generation work will be ramping up.
- O.Reg. 22/04 safety and environmental legislation requires a higher standard of care

- Demand work with the City of Ottawa shows no indication of decreasing.
- The CEA Report *Addressing the Human Resource Challenge in the Electricity Industry, 2007*, illustrates an increase in labour resources in Canada to facilitate construction of additional generation and transmission infrastructure. Hydro Ottawa staff will be increasingly engaged in constructing connections from embedded generators into the distribution system.

The CEA Report *Canadian Electricity Human Resource Sector Study, 2004*, illustrates a shrinking supply of trained utility staff across the country. A similar situation also exists in the United States. This has created a limited ability to recruit good candidates from an externally trained labour pool. Staffing full time positions from this pool is not the best return for Hydro Ottawa's investment considering that it further compounds the demographics issue.

Retirees

Table 3 and table 4 show the steady decline of System Designer staff levels due to retirements and other losses. The projected staff levels indicate significant losses to the department within the next 5 years. There will be 12 retirees in the next 15 years, that is, 1/2 (half) of the existing staff.

Corporate knowledge and job processes are best passed on to new staff through their peers. New designers are estimated to be 30-40% as productive as experienced designers. Consequently, to maintain departmental production levels, new staff must be hired and trained for a period of time prior to retirement departures. The trend of anticipated staff departures necessitates a continuous hiring process for the following 18 years.

The System Designers are not alone in needing skilled resources. Retiring Inspector positions and Service Layout Agents are usually filled through the existing PLM and Cable Installer pool, which is supplemented through the hiring of new apprentices. Retiring supervisors are usually filled through the existing design pool or from other areas in the company, and retiring managers are usually filled from design supervisors or other areas in the company.

Loss of Employees

Although this report mainly concentrates on retiring system designers, employees could leave the company to pursue other career opportunities, move within the company to other departments, or leave on long term medical leave. The employees, who do not retire, will be replaced on a one to one relationship basis. Table 3 Column H identifies the loss of retiring supervisors/managers and also assumes loss of employees due to internal movement only.

Table 3

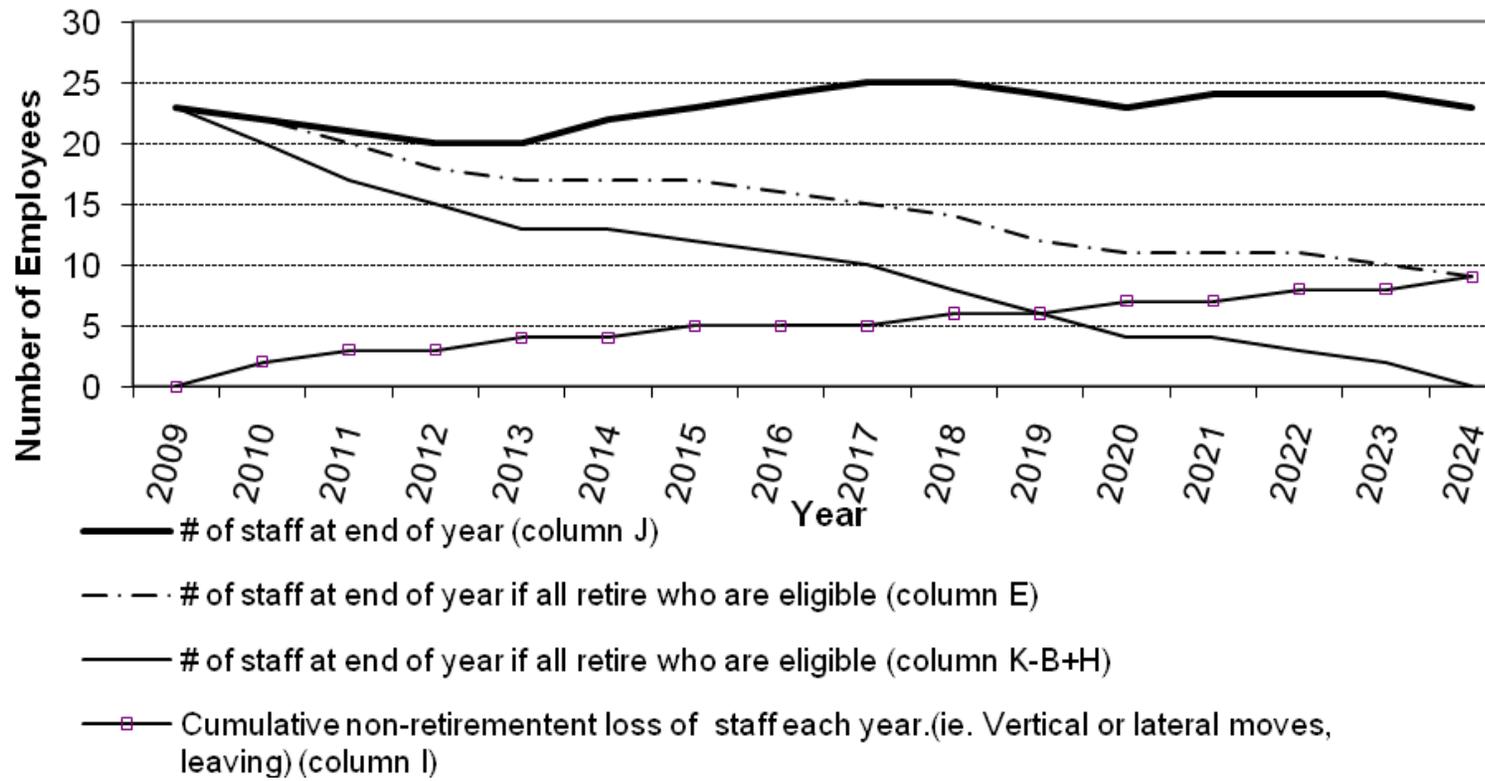
System Designers and Distribution Technical Analyst Only¹

Year	# eligible to retire in year	Cumulative eligible to retire	# of staff at beginning of year	# of staff at end of year if all retire who are eligible	New staff each year	Cumulative new staff	Loss of non-retirement staff each year.(ie. vertical or lateral moves, leaving)	Cumulative non-retirement loss of staff each year.(ie. Vertical or lateral moves, leaving)	# of staff at end of year	# of Staff at end of year if all retirements (column B) and loses (column H) occur
A	B	C	D	E	F	G	H	I	J	K
2009	0	0	23	23	0	0	0	0	23	23
2010	1	1	23	22	2	2	2	2	22	20
2011	2	3	22	20	2	4	1	3	21	17
2012	2	5	20	18	1	5	0	3	20	15
2013	1	6	18	17	2	7	1	4	20	13
2014	0	6	17	17	2	9	0	4	22	13
2015	0	6	17	17	2	11	1	5	23	12
2016	1	7	17	16	2	13	0	5	24	11
2017	1	8	16	15	2	15	0	5	25	10
2018	1	9	15	14	2	17	1	6	25	8
2019	2	11	14	12	1	18	0	6	24	6
2020	1	12	12	11	1	19	1	7	23	4
2021	0	12	11	11	1	20	0	7	24	4
2022	0	12	11	11	1	21	1	8	24	3
2023	1	13	11	10	1	22	0	8	24	2
2024	1	14	10	9	1	23	1	9	23	0

¹Table 3 does not include the vacant system designer positions

Table 4

System Designers



Recommendations

Prospective new employees

Become involved with development of community college courses that would produce graduates with utility specific training. Hydro Ottawa will not be able to acquire these necessary skills readily as indicate in the 2004 “Keeping the Future Bright” and the 2007 follow-up document “Addressing the Human Resource Challenge in the Electricity Industry” by the Canadian Electricity Association.

Support for Ontario Colleges & Universities

System designers require post-secondary education to be able to perform their duties. Professional designation as a Certified Engineering Technologist (CET) or Certified Engineering Technician (C. Tech) is an employment requirement. Our primary source of recruitment for new System Designers is Ontario Colleges. It is extremely important that Hydro Ottawa support relevant Ontario college programs in Electrical Engineering Technology by

- a) hiring students from these programs (coop)
- b) providing input on College curriculum and course content that is relevant to our business
- c) providing teaching expertise in areas where knowledge is unique to power distribution utilities

Take a pro-active approach to recruiting new employees. Community colleges that offer CO-OP programs provide Hydro Ottawa with the best of both worlds. Hydro Ottawa is able to evaluate the student during the work placements and during the full-time employee probationary period. The CO-OP period could be as long as two years. University engineering students are also hired with Distribution Design to develop future engineers.

If the above is completed, Hydro Ottawa should have opportunity for at new technology graduates. Hydro Ottawa will need to be proactive in its hiring process and commence the process 1 to 2 years prior to the requirement of replacing retiring staff.

Training

Develop and implement a System Designer training program. This task is already under way. The syllabuses for all the courses are complete and the development of the course content is under way. Courses will be divided into terms. Each System Designer will progress through the courses as outlined for each level. Courses will be offered per term on as need basis for all levels.

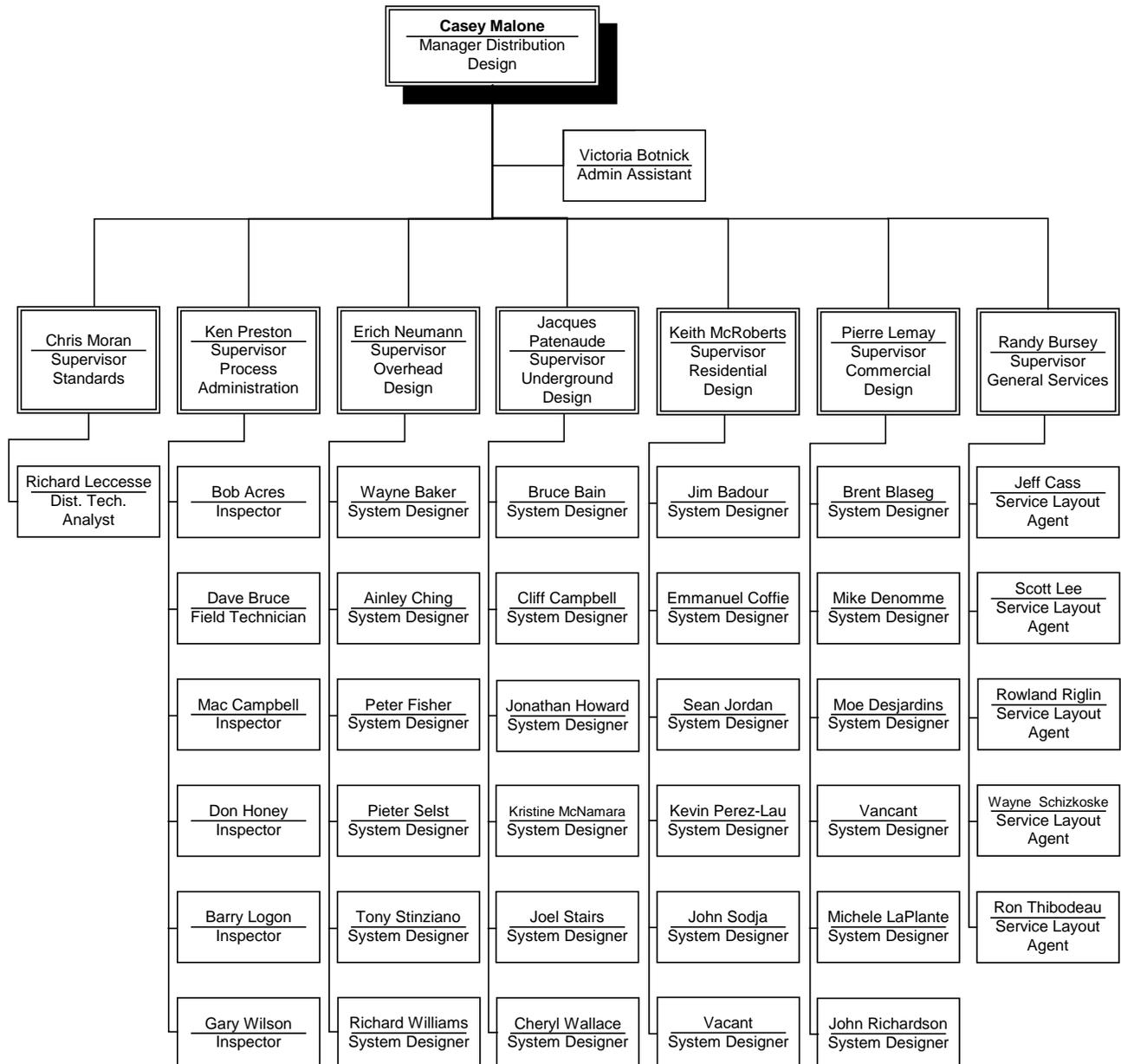
These courses will be mandatory to progress from one level to the next (i.e. junior to intermediate or intermediate to senior).

Staffing/Retirees

Maintain the existing number of qualified designers. Even though individual efficiency is expected to increase, there is considerably more work coming in the future from our existing aged structure.

Appendixes

Appendix A – Organizational Structure – Active Staff



Appendix B - System Designer Training Program

Hydro Ottawa's System Designer Training Program (SDTP) is intended to provide an outline of training and a work experience syllabus for staff new to electrical distribution. It is important for succession planning at Hydro Ottawa that new designers be provided with the opportunity to be exposed and experienced in the technical aspects of the utility operation, as well as acquire the "softer" skills (such as team building, project coordination, writing skills, presentation skills, working with difficult people, budgeting, standard corporate software) to form a firm foundation for future advancement through a career path within the utility.

The development of the training program has begun, and it will continue to be developed over time.

Refer to [Course Training Modules](#) matrix below.

Appendix B con't – Course Training Modules

Course #	Task	Level	Remarks	Training Requirements E = Experience C=Course	Requires Development	Training I = Internal E = External
S8	Train the Trainer	Senior	Has the ability to formally train groups	C	Y	I
S7	Standards Develop	Senior	Has the ability to create proposed new and revise existing standards	E	N	I
S6	Mentoring & Coaching Skills	Senior	Has the ability to mentor a junior designer through ranks	E, C	N	I
S5	multi-discipline/multi-tasking	Senior	Can design all areas and can handle multi projects at one time	E	Y	I
S4	meeting or committee chair	Senior	Can lead a committee and provide recommendations	E, C	Y	I
S3	handle projects which total greater than \$4m	Senior	The total value of projects for a year is greater than \$4.0 million dollars	E	Y	I
S2	Material Forecasting & QA	Senior	Can handle daily production material requirements.	E, C	Y	I
S1	Keys & Rubber Gloves	Senior	When can a designer acquire keys to stations & rubber gloves	E, C	Y	I
I8	Mearie - Technician training module	Intermediate	Has completed the Mearie self study modules	C	Y	I
I7	Regulatory agencies - 101	Intermediate	Overview of regulatory bodies such as EUSA, ESA, OEB, OMB, MOL	C	Y	I
I6	Project Reporting	Intermediate	should be 80-90 percent productive and have a total value of projects of 2-3 million	E	Y	I

I5	Civil 102	Intermediate	Understand advance civil principles & installation	C	Y	I
I4	expertise in one of the following areas:O/H,U/G,Res, or Com	Intermediate	Has mastered all aspects of one of the four disciplines identified.	E	Y	I
I3	Polices	Intermediate	Can assist in the creation of new policy and can revise an existing policy	C	Y	I
I2	Distribution System Knowledge	Intermediate	Understands the distribution system for the Hydro Ottawa territory including protection and control.	E, C	Y	I
I1	Special assignment/committee	Intermediate	Can be assigned to a special project or committee.	E,C	Y	I
J16	UG Electrical Equipment 101	Junior	Orientation to basic underground electrical equipment	C	Y	I
J15	Writing Skills	Junior	Letter writing, Technical reports, Analysis Report	C	N	E
J14	Education	Junior	Has the proper schooling to be eligible OACETT certification	E	Y	I
J13	HOL corporate software systems	Junior	Understand Financial system (JDE), Customer system (CIS), and graphical information system (GIS)	C	Y	I
J12	Design Skills	Junior	Understand project requests such as estimates	E	Y	I
J11	Electrical Theory 101	Junior	Understand electrical principles	C	Y	I
J10	Civil 101	Junior	Understand civil principles & installation	C	Y	I
J9	Conditions of Service 101 & 102	Junior	Understand basic principles	C	Y	I
J8	Records / Circuitry / Land Rights	Junior	Understands the requirements the HOL requires from the field.	E, C	N	I
J7	Standards & specifications	Junior	Understands HOL standards/specs and their location	E,C	N	I

J6	general software	Junior	Knowledge of MS Office suite (Word, Excel, Outlook, PowerPoint, Outlook)	E,C	N	I
J5	Basic Projects	Junior	Can complete a basic project with little assistance.	E		I
J4	HS&E	Junior	Standard corporate training from HS&E	C	N	I
J3	Project management skills	Junior	Knowledge of the Project Coach, Contractor Safety Management (CSMP)	C	N	I
J2	Negotiating Skills & Customer Relations	Junior	The ability to work with difficult individuals	E, C	N	E
J1	Organization knowledge	Junior	Is able to find information requested from all aspects of the organization	E, C	Y	I

Appendix C - Distribution System Designer Job Description

HYDRO OTTAWA POSITION DESCRIPTION

TITLE: System Designer

REPORTS TO: Various Supervisors in the Distribution Design Group

SUMMARY: Working for a Supervisor in the Operations Design division, the System Designer produces designs, estimates, bill of material and work orders, and project manages/ financially administers projects typically associated with expanding, upgrading or rehabilitating various elements of the distribution system including services to customers.

ACCOUNTABILITIES/RESPONSIBILITIES: The essential responsibilities of the job include but are not necessarily restricted to the following:

- Designs projects in accordance with Hydro Ottawa procedures, standards and all other applicable standards
- Manages projects effectively and efficiently following the Hydro Ottawa Project Management processes and guideline to complete project assignments including design, estimating, work order production and project reconciliation functions
- Tenders, evaluates, recommending awarding, and administer contracts for both internal and external work forces
- Administers the Contractor Safety Management Guide by monitoring compliance of internal and external work forces with all applicable legislation, particularly Health and Safety. Must take immediate corrective actions if dangerous practices are found, in accordance with documented procedures for such occurrences
- Prepares and issues the Health, Safety and MOL documentation such as Job Planning, MOL project Notification, etc.
- Ensures the quality and accuracy of project construction work is to design standards and takes corrective action as necessary
- Initiate and monitors project construction and costing status, and monitor work orders using the Enterprise Business Financial System. Prepares cost variance reports if necessary

- Identifies customers, stakeholders, their requirements and manage stakeholder expectations
- Manage cross-functional teams
- Responsible to ensure that all projects are executed to meet the requirements, budgets and schedules by liaising with all Hydro Ottawa departments and external contacts as required
- Communicates and coordinates with Customers, Developers, Consultants, Contractors, Representatives from the City, other Utilities and other outside agencies in order to ensure timely and accurate execution of projects
- Prepares applications for various types of approvals as required for project assignments
- Prepares, processes, reviews and recommends modifications to legal documentation associated with Contracts or Agreements for projects
- Coordinates material management including evaluating, inspecting, testing, and forecasting
- Provides input in the creation of budgets and business plans
- Prepares, reviews and recommends technical standards and specifications
- Prepares reports as directed by the Supervisor
- Analyzes process and equipment failures and recommends corrective actions
- Coordinate field equipment as necessary
- Performs other related duties as required

Required Qualifications

EDUCATION/ EXPERIENCE:

- *Registered Relevant Technical Engineering Technologist, Technician,*
- *Strong technical design, project management, computer, administrative and interpersonal skills.*
- *Electrical distribution design experience an asset*
- *Civil design experiences an asset*
- *Financial experience/training an asset*

COMPETENCIES/SKILLS:

- Excellent project management skills.
- Strong ability to deal effectively with changes in procedures and priorities in the work environment
- Demonstrated ability to deal consistently and effectively with Customers, Developers, Consultants, Contractors and City staff
- Demonstrated ability to manage time effectively, to produce work orders, and manage projects to meet the schedules approved by the Supervisor
- Demonstrated ability to use standard business software such as Microsoft Office Suite for word processing, spreadsheet, database applications, e-mail and digital imaging software
- Demonstrated ability to use specialized design, including CAD and GIS systems, project management software, financial and billing software
- Valid Ontario Class G drivers license required

LANGUAGE:

- Strong command of English both oral and written
- Working knowledge of French, both oral and written, a definite asset

Job Specifications

EFFORT:

- Manages multiple, concurrent work assignments, often with tight deadlines
- Frequent use of a computer is inherent to the work
- Consistently produces accurate and complete Work Orders
- Works closely with Construction forces, system planning and system control to produce high quality results
- Deals with demanding customers, clients, contractors and consultants
- Commutes intermittently to a variety of work sites
- Adapts effectively to conflicting priorities and changing deadlines in a dynamic engineering environment

WORKING CONDITIONS:

- Works in a busy design office environment
- Frequent field visits are required to effectively manage projects, and to meet with Developers, Contractors and Consultants
- Some exposure to inclement weather conditions associated with field work
- If trained, rubber glove work on high voltage equipment maybe required
- On-call maybe required

September 21, 2006

Workforce Plan for System Operations

2008 Report



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Executive Summary

System Operation's primary responsibility is to ensure the safety and reliability of the Hydro Ottawa Distribution System. This department includes the Control Room which monitors and controls the Distribution System, and dispatches crews to perform field switching, the Technical Services section which is responsible for the Supervisory Control and Data Acquisition System (SCADA), and the Operations Planning section which plans all work to be performed on the System.

All Hydro Ottawa planned capital and maintenance activities must interface through this department in order for all crews to carry out their work safely and ensure system reliability is maintained. To do this we need highly trained and efficient staff to process all the work applications and ensure the work is done safely. In other words, "as we go, Hydro Ottawa crews go". Additionally, we need to be effective in our response to system outages to minimize the impact to our customers.

The System Operation group has undergone significant changes and challenges over the past 7 years. At amalgamation the challenge was to bring 4 Control Rooms into one, amalgamate 4 SCADA Systems, hire additional staff due to departures, transfer/train Traveling Operators to System Operators and rebuild the emergency response organization. In addition to these challenges was high growth, our aggressive Asset Management Plan, introduction of new technology (OMS/GIS), a new Work Protection Code and the relocation to a new Control Centre in 2005. Since amalgamation the Manager's position has changed leadership 6 times.

Our workforce plan is will address the following issues

- Succession Planning for Operator Position, this will done with Field Operators being trained to step into the role while performing field activities
- A single chain of command for emergency response, that is the Field Operators working directly for Control Room Operators
- Increase support for Planning Office, this will help planned work proceed more effectively
- Transition to and training for the new technologies that the Control Room will be using in the coming years, computer savvy Apprentice Operators will be the agents of change
- Provide more support for the Dispatcher position, Apprentice Operators will be on shift and trained to step into the role when required
- More proficient and competent Operators, this will be done with more training in the Control Room and training these Operators in field switching.

- Increased staffing and training in Technical Services to support the increased use of Technology

System Operations Demographics

Assumptions

The following assumptions were made to produce the following report:

- Our current service territory remains the same.
- Our current staffing levels remain constant and our organization structure is stable for at least 5 years.
- Data was retrieved from Human Resources and also individual discussions occurred with some of the staff who have age but not years service in certain positions
- The one major role change for us, taking on the ground level switching has the support and cooperation from CAM 24/7 group. At the mid-point of the switching project we will reevaluate the resource requirements. At first draft we expect we will need a minimum 5 DRRM's to stay on in System Operations or we will recruit from outside the organization.
- This plan does not include short-term support with special projects. Typically temporary staffing, consultants, and/or contractors may be required.
- Our SCADA group continues to maintain the SCADA system and develop the our current smart assets as well as look at additional smart tools to help our Control Room staff.

Background

The current System Operations team consists of 1 Manager, 3 Supervisors, 1 System Operations Coordinator, 9 System Operators, 8 Apprentice Operators, 3 Scada Technicians, 2 Vault Maintenance Technical Specialist, 1 Power Quality Technical Specialist and 1 Administrative Assistant. See [Appendix A](#) for Organization Chart for active System Operations staff.

Table 1 indicates the average service years, the average age, and the total number of people in each job description for the design department.

Table 1

Job Description	Level	Data	Total
Operators		Average of service in yrs at the end of 30/12/08	13.2
		Average of current age	46.2
		Count of Last Name	10
Dispatchers		Average of service in yrs at the end of 30/12/08	na
		Average of current age	na
		Count of Last Name	4
Vault Maint Tech Specialist		Average of service in yrs at the end of 30/12/08	12.5
		Average of current age	41
		Count of Last Name	2
Power Quality Tech Specialist		Average of service in yrs at the end of 30/12/08	
		Average of current age	
		Count of Last Name	1
SCADA Technician		Average of service in yrs at the end of 30/12/08	3
		Average of current age	35
		Count of Last Name	3
Supervisor		Average of service in yrs at the end of 30/12/08	21
		Average of current age	48
		Count of Last Name	3
Manager		Average of service in yrs at the end of 30/12/08	25
		Average of current age	47
		Count of Last Name	1

Summary by group

Operators - The average years service data does not totally reflect the demographics effectively due to the fact that at amalgamation we hired 3 mid career Hydro One Operators and rehired a ex Hydro Ottawa employee that had 15 years experience. 3 of the 4 employees have transferred pensions so they will be given credit for previous service. It is anticipated that this group will not see any retirements within the next 10 years. To be effective in this positions requires over 5 years experience at Hydro Ottawa in order to understand not only the role of an Operator but also the Hydro Ottawa Distribution System. Our new Apprentices will work alongside these Operators for 3 years before being put into a regular shift rotation

Dispatchers -This group is the most at risk from a loss of members. With only 4 trained Dispatchers, and 3 of the 4 each having over 30 years in the industry it is likely we will

all three of these members inside the next 5 years. The plan for replacements has to come from our Apprentice Operator population. The combination of system knowledge and computer skills has been difficult to find in our replacement strategy. More work must be done to define the long term solution for this position as technology will also change in the Control Room where our Operators will have to have more Dispatcher knowledge. Two senior staff members have verbally indicated their plans, one will work until either mid or end of 2010 while the other will remain until 2014. The third is eligible for unreduced retirement in 2014.

Supervisors – The earliest retirement date for the System Operations Group would not be until 2018. During this time we will be developing our next leaders through internal and external training. The SCADA Tech Services Supervisor can retire inside of 5 years and we have started the process to develop his replacement now by assigning tasks that relate to the role of the Supervisor.

SCADA Technicians- This group has the least amount of experience but is highly skilled in the field and well positioned to support the technical needs of the System Operations for some time. A defined training plan is being developed and will help focus on the skill sets needed for the group to be successful.

Vault Maintenance Tech Specialist- This group is mid career. The risk of loss of employees here would be due to lateral transfers. They have good processes to train incoming staff and the feeder system for this position can come from outside trades staff.

Table 2 indicates the number of active staff with their earliest retirement dates for the System Operations department.

Table 2

Job Description	Earliest Unreduced Retirement Date	Total
Operator	2018	2
	2019	3
	2020	1
	2021	1
	2023	1
	2025	1
Apprentice Operator	2038	8
Manager	2016	1
Supervisor	2013	1
	2018	1
	2022	1
Coordinator	2021	1
Vault Maint. Tech	2021	1
	2023	1
Dispatcher	2010	1

	2014	2
	2023	1
SCADA Tech	2028	1
	2032	1
	2038	1

¹The earliest retirement dates received from Human Resources did not include eligible years of service from other employers. The earliest retirement dates obtained from Human Resources were updated with information from the people themselves. These dates are reflected in the Table 2.

Recommendations

Prospective new employees

Technology is a significant part of all positions in this department. The practice of hiring new staff with a minimum 2 year college diploma in electrical technology is recommended. Participation in college coop programs is also advisable so that these workers can not only be evaluated by us for future positions they will also get first-hand experience on how the power system operates.

Staffing for departures in the System Operator group should occur at a minimum of at least 3 years prior to the know departure. This allows adequate training to occur which is critical in this position. The next big challenge for this department will be taking on the outside switching. Our ability to respond to this will be a good measuring stick on how well we have prepared our new workforce and our model developed in the attached Project Charter.

Training

Apprentice Operator

See attached [Project Charter](#) document created in 2008 that outlines the proposed training plan for the current Apprentice Operators. This charter details the plan to train our new Apprentice Operators in both field switching and control room activities so that they may be able to fulfill Operator duties, Planning duties, Dispatch duties, and Travelling Operator duties. Each Apprentice has a hardcopy training book that must be completed as part of their regular duties. It is anticipated that these Operators will be able to step into the regular Operator shift cycle in 2011.

Dispatch

This area will see staff changes first. The Dispatcher role will evolve with the incoming technology (OMS Switching) and will need replacements due to retirements first likely to occur between 2010 and 2014. The plan to replace should consider hiring Apprentice Operators as opposed to Dispatchers . All current Apprentice Operators are trained at

Dispatch and it would be advisable to make this part of the rotation for their regular duties.

SCADA Technicians

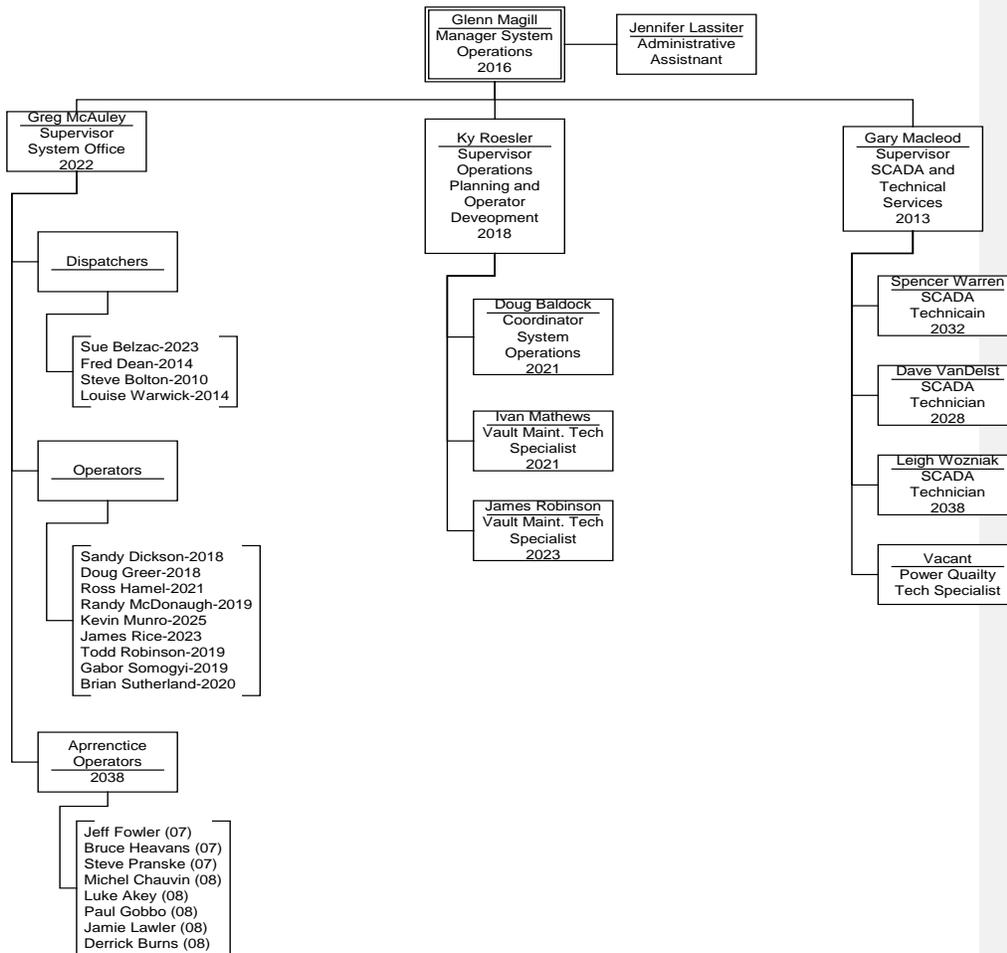
The SCADA Technician position requires a strong technical background in telecommunications, SCADA/Distribution Automation software, hardware as well as an excellent knowledge of the Operator duties and the Distribution System. We have set out a plan to ensure they trained on the technology of the systems they install and maintain. See attached [SCADA Technician Training Matrix](#)

Operator Training

Our existing veteran Operators need to be highly trained on the tools they use in the System Control Centre and well trained on how to effectively respond to both planned and emergency events. We have undertaken three initiatives with this group to improve their knowledge. These are, cycle the Operators back into the field, set up a Training Centre at the backup Control Room and run failure scenarios on the SCADA simulator (MyOASYS), and also increase annual training hours to cover listed topics in attached [Operator Training Matrix](#).

Appendixes

Appendix A –Organizational Structure – Active Staff



Appendix B – Project Charter for Operator Succession Plan

HYDRO OTTAWA PROJECT charter

I

JDE Project Number	<i>Not Applicable</i>	Project Name	<i>System Operations Field Operators Training Plan</i>		
Project Type	<i>System Operations Organization</i>	Business Unit	<i>209750</i>		
Program	<i>N/A</i>	Estimated Start Date	<i>June 2008</i>		
Project Manager	<i>Ky Roesler</i>	Sponsor	<i>Glenn Magill</i>		
PM's Tel. #	<i>Ext 7254</i>	Sponsor's Tel. #	<i>Ext 7152</i>		
PM's E-Mail	<i>kyroesler@hydroottawa.com</i>	Sponsor's E-Mail	<i>glennmagill@hydroottawa.com</i>		

Project Definition and background

System Office is the Control Center for the Hydro Ottawa distribution system. Managing and operating the system effectively is integral to safe everyday operations. The System Operator position is the backbone of Control Room. Developing excellent System Operators requires technical, theoretical and practical in-field training and experience. The Hydro Ottawa Distribution System is relatively large and diversified, with a dense downtown core. Field switching in stations, vaults, and padmounted devices is a 24/7 operation requiring specialized knowledge and expertise. In 2007 alone we shut down between 200 and 300 customer vaults for maintenance and performed over 3500 switching orders. The organizational structure utilized over the past 6 years, with DRRM's doing field switching, has not been conducive to developing new System Operators. Over 2007 and 2008, 8 new Apprentice System Operators will have been hired, all with very high technical and/or theoretical capability, but with little to no field experience.

This project defines how we will take these new apprentices and train them to become complete Operators with experience and training on both Control Room and field

activities. It will describe how we will work with the current CAM group to transition ground level switching activities to the Control Room

It will also define what activities will remain with CAM regional crews and with the 24/7 DRRMs and the timeline to take on the full responsibility for all ground level switching.

PROJECT Scope

IN SCOPE	OUT OF SCOPE
<i>Hire New 2008 Apprentices</i>	<i>Transition Plan for current 24/7 (being handled by Dave Garland)</i>
<i>Develop Training Matrix for all Apprentices</i>	<i>Reliability Response for non ground level switching. (Needs to be addressed in Dave Garland's plan for 24/7)</i>
<i>Develop Training Plan and schedule for next 12 months, tentative schedule for next 24 and 36 months</i>	<i>Where Dispatch fits in organization, and succession plan for this group</i>
<i>Work with CAM on training and transition plan to effectively and efficiently transfer these functions to System Operations. Final Design of System Operation organization for 2011 and beyond.</i>	
<i>Work with CAM on best options for Dispatch function</i>	
<i>Develop criteria for single man activities as they relate to the duties of the Control Room</i>	

Objectives

- To create better, more confident System Operators by training apprentices and existing staff on in-field switching - to learn the city, the system, and the devices
- To create a long-term development and succession plan for System Office
- To improve response time and accuracy of switch operations
- In conjunction with the ongoing 24/7 project project, facilitate effective System Operations without a dedicated 24/7 DRRM field staff

One of the key elements identified to achieve these objectives is the re-introduction of field (travelling) operator activities. This activity will assist both apprentices and existing

operators with limited field experience gain the necessary knowledge, experience and confidence to perform their operator duties at a high level. It will also improve consistency and timeliness of field operations.

Benefits

- Better organizational functions, field operating staff working in the same business unit and for the same Supervisor. They will take direction from the Control Room Operator and their primary activity will be following the restoration directions from the Control Room.
- We will create a natural succession plan for the Control Room Operator so that when retirements or resignations occur, we have staff trained and capable to step into the role.
- Create Operators who will be switching experts, their focus will not be on making repairs but on getting the power back on as quick as possible. Also, they will have specialized training on switchgear and protection devices.
- With the success of this project the CAM group can transition to regional response, longer normal workday using afternoon shift/on-call and ultimately less operating costs due to less need for overtime to cover emergencies.
- Better response to outages and accuracy of switching

Success Criteria

- Satisfied Customers both internally and externally
- Organizational harmony, a productive and happy workforce
- Transition occurs without injury or incidents
- No additional external hires, transfer of staff used for training and long term operation

Assumptions and Expectations

- Training and transition needs support and cooperation from the current CAM 24/7 group
- Initially we will need 1 DRRM from November 2008 to January 2011. This will give training to all for 2007 and 2008 apprentice hires in 3 month terms. This crew will work day switching for Monday to Friday. At the same time the 2008 apprentice hires will be on training rotation in Control Room, Planning and Field Switching (with System Operations Supervisor)

In January 2011 we will need minimum 5 DRRMs -, this will allow us to expand our switching 24/7 These DRRMs will either remain with us once the training is complete or we hire replacements in 2013 so that we have at least 1 year overlap to train to keep coverage.

- Starting in January 2011 the Apprentices will have enough Control Room experience to allow the existing System Operators to get out and work in the field and to further develop their Distribution System knowledge
- Time required to develop and train new staff to step into these new positions
- Our final workforce when the project is complete will need a minimum 5 additional bodies, the assumption is that these will be filled by existing DRRMs.
- Our current service territory remains the same.

Constraints

- Lack of support or staff required from CAM to deliver the required transitional training
- New staff, time required to expose these new hires to the large number of locations, equipment types, operation techniques
- Increasing throughput work in the Control Room due to additional activity on the Distribution System

Deliverables, Schedule and costs

Milestones

MILESTONE DELIVERABLES	TARGET DATES
<i>Hire 4 new Apprentice Operators (combined with 4 from 2007)</i>	<i>Q2 2008 (Done)</i>
<i>Select DRRM for training assignment of Travelers</i>	<i>Q2 2008 (Done)</i>
<i>Prepare day shift switching schedule for Apprentice/DRRM team</i>	<i>Q2 2008 (Done)</i>
<i>Prepare 24/7 coverage schedule for Apprentice/DRRM team</i>	<i>Q3 2008 (Done)</i>
<i>Define single man switching activities</i>	<i>Q4 2008 (Done)</i>
<i>Select 5 DRRMs for training for 2011-2013 assignment</i>	<i>Q2 2010</i>
<i>Prepare schedule and training for current Control Room Operators</i>	<i>Q2 2010</i>
<i>Train Operators on pulling elbows</i>	<i>Q4 2010</i>
<i>Complete training plan defined</i>	<i>Q1 2011</i>

Project Human Resource Costs

<i>Project Human Resources</i>	<i>Business Unit & Skill Set / Level of Employee</i>	<i>Expected Total Effort (FTE)</i>	<i>Expected Field Crew Effort (FTE)</i>	<i>Total Cost (\$'000'S)</i>	<i>X if Not Included in Burden</i>
Project Manager					
Ky Roesler	Team Lead, progress reports and sign off on milestones	1			
Project Team					
Greg McAuley	Assist PM with executing project				
Jeff Meek	Progress review/support for project/integrate with CAM plan				
Jim Kelly	Progress review/support for project/integrate with CAM plan				
Jeff Bracken	Progress review/support for project/integrate with CAM plan				
SET Department	Review training requirements/progress				
DRRM's	Strong Leadership/mentors required for training new apprentices		1 for 11/08 to 12/10 5 for 1/11 to 12/13		

External Costs

VENDOR EQUIPMENT	CONTRACT SERVICES	MATERIAL COSTS
<i>Small Tools for switching</i>		\$30k
<i>Traveler Truck</i>		2008 budget \$40k arrived
<i>Traveler Truck</i>		2009 budget \$40k

Key Activities

- Hire new Apprentices
- Finalize Traveler Training Syllabus for 8 new Apprentice System Operators
- Select DRRM for 12 month day switcher assignment
- Set up 8 week introduction training program for 4 apprentices
- Start training with 2007 apprentices on spare days
- Assist CAM with their 24/7 long term plan

Key Stakeholders

<i>NAME</i>	<i>DEPT./ BUS. UNIT</i>	<i>TITLE</i>	<i>ROLE / IMPACT</i>	<i>PHONE</i>	<i>E-MAIL</i>
<i>Bill Bennett</i>		<i>Director DAM</i>			
<i>Lance Jeffries</i>		<i>Director CAM</i>			
<i>Dave Garland</i>		<i>Manager CAM South Central</i>			
<i>Glenn Magill</i>		<i>Manager Sys Ops</i>			
<i>Jeff Bracken</i>		<i>Supervisor 24/7 Field Ops</i>			
<i>Jim Kelly</i>		<i>Supervisor 24/7 Field Ops</i>			
<i>Jeff Meek</i>		<i>Supervisor 24/7 Field Ops</i>			
<i>Dave Stephens</i>		<i>SET</i>			
<i>John Fetzer</i>		<i>SET</i>			
<i>Greg McAuley</i>		<i>Supervisor System Office</i>			

Key Project Risks

- Safety of new staff if training not adequate before they are allowed to switch by themselves
- Not having dedicated trainer to ensure all planned training is completed

Interrelated Projects

- CAM project to decide long term solution for 24/7 and Dispatch

Reviews and Signatures

KEY REVIEW POINTS	DUE DATES	APPROVING /SIGNING AUTHORITIES
Initial Charter	Q2	Bennett/Magill
Quarterly Progress Reports	Q3 and Q4 2008	Bennett/Magill
Changes to plan	Immediately	Bennett/Magill

Change Management Process

Significant changes to the project will require Project Manager to use change management document to approve changes

**PROJECT Charter AUTHORIZATION /
phase 2 Project summary authorization**

Sponsor's Signature: _____

Name:

Title:

Date: _____

Asset Manager's Signature: _____

Name:

Title:

Date: _____

Key Stakeholder's Signature: _____

Name:

Title:

Department:

Date: _____

Appendix C – SCADA Technician Training Matrix

SCADA Technician Training Plan - 2009

1. SCADA Technician Position Description

The position of SCADA Technician assigned to SCADA & Technical Services Department is responsible for maintaining and developing a number of System Operations applications, such as the SCADA system, all communications, remote terminal units (RTUs), PI Historian, PQView and ION Enterprise as well as all SCADA capital projects.

A SCADA technician skill set requires broad and in-depth technical knowledge of HOL's SCADA system. They need a good understanding of advanced software and hardware platforms for substation control and automation. They are required to understand, troubleshoot and configure SCADA data communications and have general project management capabilities.

In addition to the technical area of expertise, SCADA technicians are required to:

- manage capital and maintenance projects
- prepare cost estimates
- order non-stock materials
- outline design requirements
- conduct project progress and pre-construction meetings
- financially track project progress utilizing JDE

2. Essential skills

Position of SCADA Technician in Hydro Ottawa is somewhat unique as compared to other departments, which is due to the requirement of in-depth technical knowledge and experience necessary to perform the job. The current SCADA Technicians have limited experience because of the short duration of their time in their current roles.

Spencer Warren is the current most senior SCADA technician and has 28 months of experience. He brings strong data communication and system control experience from his previous employer but lacks experience with an electrical distribution SCADA system

David VanDelst has many years of experience as an industrial electrician with some experience in process control. David has been employed at HOL for 4 years and has completed training as a station electrician. David has been working with the SCADA group for 5 months.

Leigh Wozniak started with Hydro Ottawa in November 2008 as a SCADA technician and she brings past years of experience as Sub-station P&C Technician and experience with a Survalent SCADA system. She knows the basics of a SCADA system and learns our system quickly but further factory training and advanced computer skills such as SQL and Windows Server 2003 is required..

In January 2009 we conducted a "Training Needs Assessment" that included a survey of the current staff's knowledge of HOL's Telvent SCADA system including communications and RTUs. Figure: 1 shows the average skill level of the SCADA group in four main categories on a scale of 0 to 9 where 9 is the highest knowledge score.

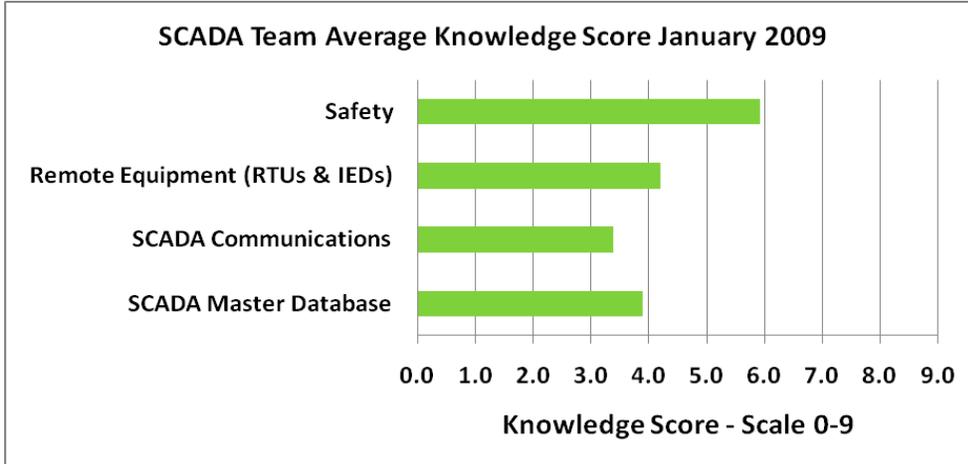


Figure: 1 SCADA Team Average Knowledge Score January 2009

3. Essential Training

SCADA system control is a highly specialized technical field that constantly develops as the technology evolves. There are no college programs available that would train and prepare candidates for these positions. Companies, such as Hydro Ottawa have to rely on available external training programs, which are mostly held in the US. It is of utmost importance to recognize the need for proper training and continuing education of both experienced and newly hired employees. Properly trained employees are critical in the SCADA field to maintain HOL’s SCADA system at a high level of reliability to ensure the system is available to operate properly during major system outages. A reliable SCADA system will impact SAIDI statistics

In the SCADA group, only one person is deemed qualified to perform most but not all SCADA functions as shown in Figure’s 2-4 below. The remainder of the group has varying degrees of qualifications. An ongoing shortage of qualified people in the industry, leaves Hydro Ottawa in a vulnerable position should skilled SCADA Technicians decide to depart for other organizations.

Hydro Ottawa would not be able to develop its own formalized training program, nor would this be justified considering the number of SCADA Technician positions. We therefore have to rely on external resources to be able to develop our staff to the level where they are competent and proficient in the work they perform. Though the costs may seem high, these staff members are required to maintain a multi-million dollar mission critical system

The most comprehensive training programs are offered by manufacturers such as Telvent (SCADA master and RTUs), Survalent (RTUs), H&L (Fiber Transceivers) and GE MDS (wireless data radios). We also rely on organizations such as Learningtree to provide specific IT training such as TCP/IP, Windows Server 2003 and SQL as examples.

Knowledge of SCADA Master System

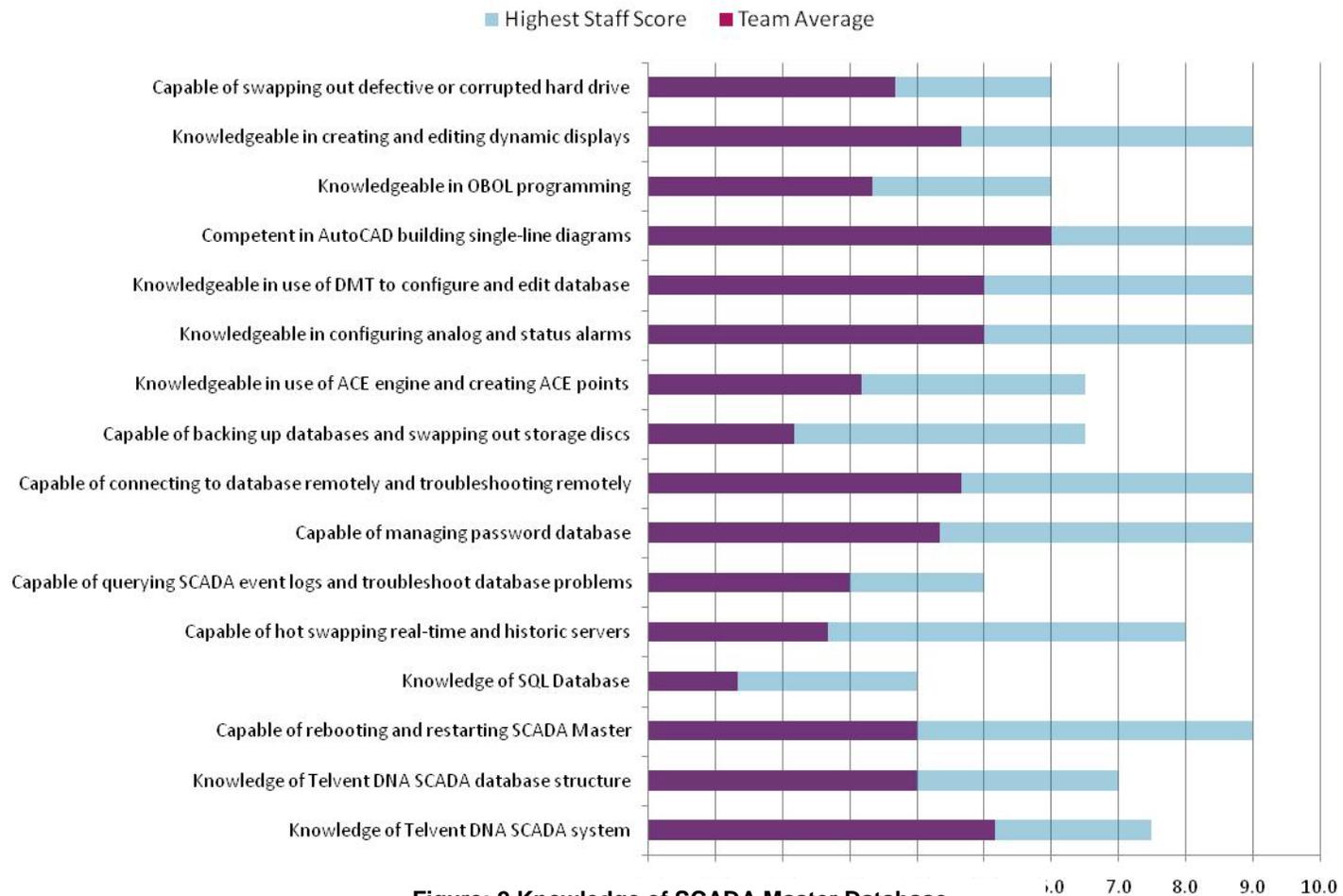


Figure: 2 Knowledge of SCADA Master Database

Knowledge of SCADA Communications

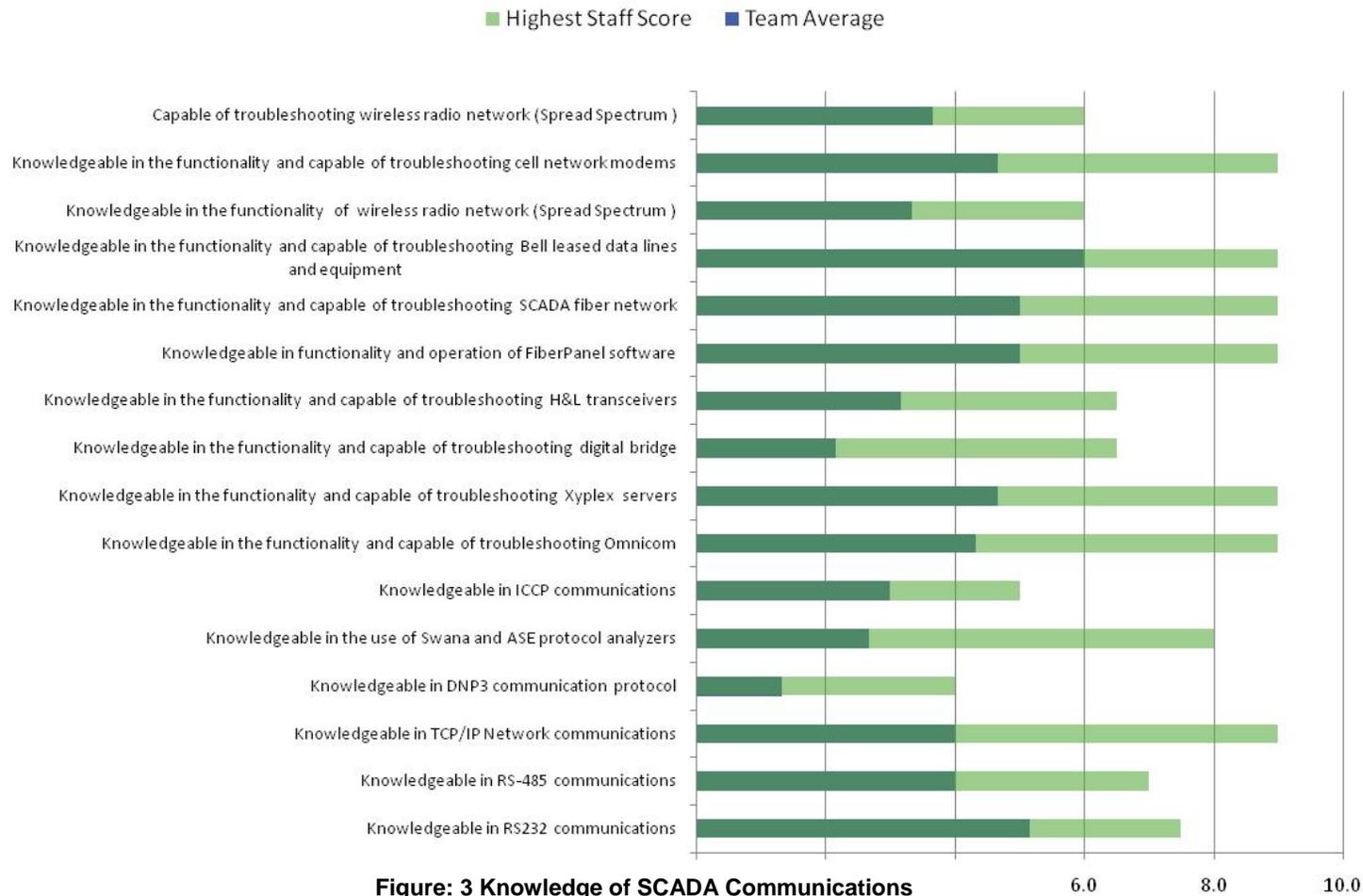


Figure: 3 Knowledge of SCADA Communications

Knowledge of Remote Equipment

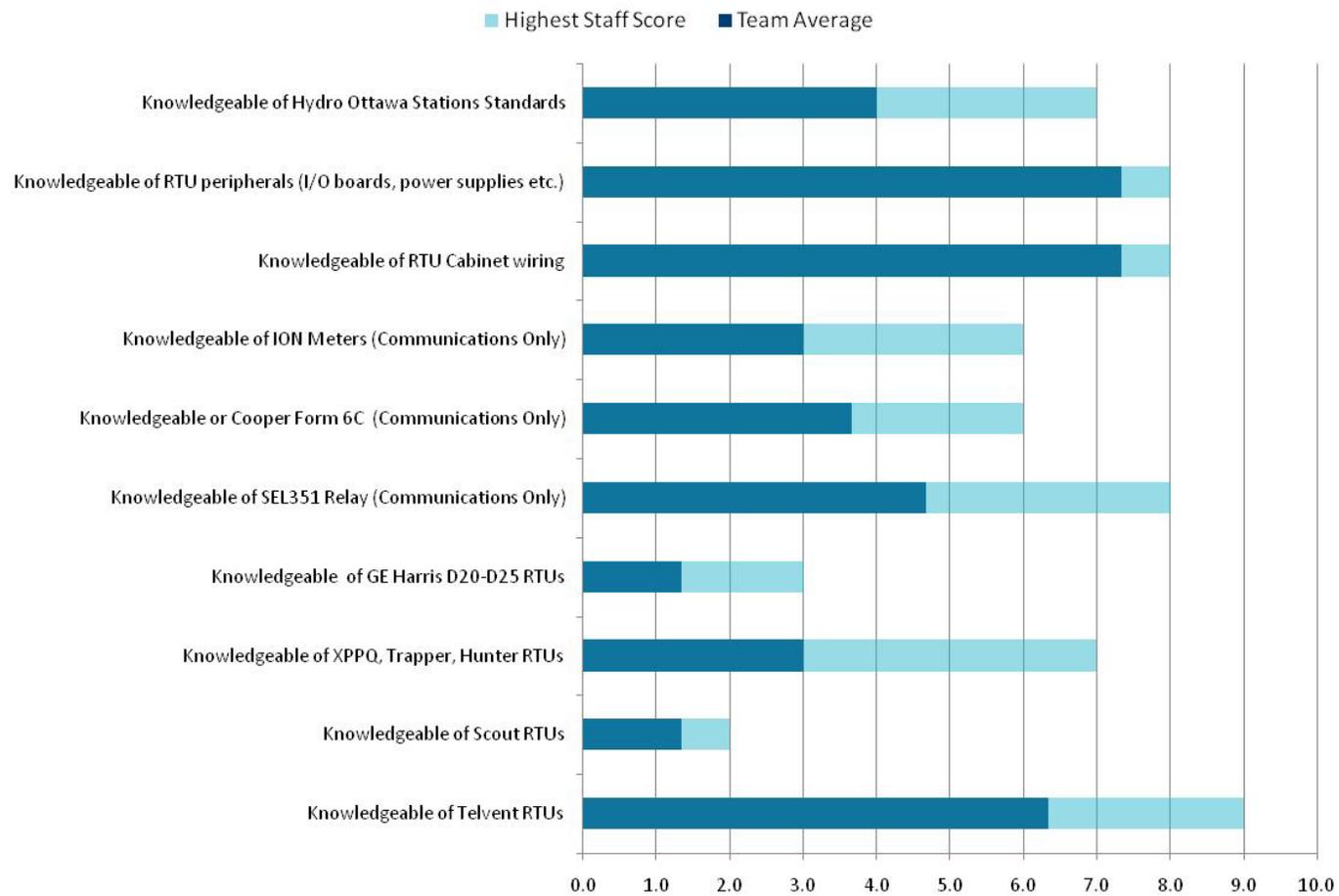


Figure: 4 Knowledge of Remote Equipment

4. Training Budgetary Requirements

The attached “SCADA Training Needs Analysis” breaks down the annual costs to provide adequate training to this new team of SCADA Technicians. For 2009 we will maintain our training levels while staying within our budget because a lot of the training will take place in-house to get them the basics.



SCADA Training Needs Analysis Final .

Some training will also be included from Telvent because they had to cancel the Fall 2008 meeting because of a hurricane and these prepaid costs plus surplus service agreement hours will allow them to come in house to Ottawa for a week at no cost to Hydro Ottawa

Figure: 5 shows the annual totals for training for the next 5 years. A heavy emphasis is on the “Core Training Costs” to bring the SCADA technicians up to productive scores of 6-7 out of 9 within the next 3-4 years.

We have added two extra rows in the spreadsheet to show training for “DNA SCADA Upgrade in 2013 at a cost of \$10,000 (item 17) and “Smart grid” technology (item 45) at a cost of \$4,000 in 2011, \$8,000 in 2012 and \$8,000 in 2013.

Budget Year	2009	2010	2011	2012	2013
Core Training Cost	\$18,000	\$29,000	\$24,500	\$21,500	\$20,000
New Initiative Training			\$4,000	\$8,000	\$18,000
Total Training Costs	\$18,000	\$29,000	\$28,500	\$29,500	\$38,000

Figure: 5 SCADA Group Annual Training Cost Summary 2009 - 2013

The average annual cost for Core Training over the next 5 years is \$22,600 per year and the average cost to train 3 SCADA techs is \$7,530 per year which should be a reasonable amount for training to keep long term staff.

We currently rely heavily on the expertise of one SCADA technician with two years of experience. In order to keep good staff here at Hydro Ottawa, we have to provide them the proper training in order for them to gain experience and satisfaction in their work. We also have to provide training to our two new technicians quickly so we can relieve the load of the senior technician and have redundancy in our experience base should a technician decide to move on.

In conclusion I want to note the current technicians are very smart people with good troubleshooting and learning skills and they will pick up a lot from this training and increase productivity and efficiencies very quickly.

Appendix D – Senior System Operator Training Matrix

Topic	Remarks	Frequency	Delivered by
SCADA			
	Setting Alarms	Once	SCADA Technicians
	Retrieving Information		SCADA Technicians
	Filtering		SCADA Technicians
	Event Analysis		SCADA Technicians
	Alarm Message Interpretation		SCADA Technicians
Work Protection Code			
	Recertification	Annually	Operations Supervisors
	Bulletin Review	Annually	Operations Supervisors
OMS/GIS	Refresher Training	Once	SME or GIS rep
	Intermediate Training	Bi-monthly meeting review	SME or GIS rep
Power System Restoration			
	Ontario Power System Restoration Plan	Once	Operations Supervisors
	Voltage Reduction	Once	Operations Supervisors
	Load Shedding		Operations Supervisors
	Hydro Ottawa ERP	Once	Operations Supervisors
	Outage Scenario Reviews	Bi-monthly meeting review	Operations Supervisors

Appendix E-Proposed Shift Schedule for Apprentice Training Program

Year Two							
Jan 1/9		April 1/9		July 1/9		Oct 1/9	
Crew 1	Gabor Doug G Paul	Crew 1	Gabor Doug G Paul	Crew 1	Gabor Doug G Derrick	Crew 1	Gabor Doug G Derrick
Crew 2	James Ross Michel	Crew 2	James Ross Michel	Crew 2	James Ross Paul	Crew 2	James Ross Paul
Crew 3	Brian Randy Luke	Crew 3	Brian Randy Luke	Crew 3	Brian Randy Michel	Crew 3	Brian Randy Michel
Crew 4	Todd Bruce Steve	Crew 4	Todd Bruce Steve	Crew 4	Todd Jeff Steve	Crew 4	Todd Steve Jeff
Crew 5	Kevin Sandy Jamie	Crew 5	Kevin Sandy Jamie	Crew 5	Kevin Sandy Bruce	Crew 5	Kevin Sandy Bruce
Planning	Doug B Derrick	Planning	Doug B Jeff	Planning	Doug B Jamie	Planning	Doug B Luke
Switching	Jeff	Switching	Derrick	Switching	Luke	Switching	Jamie

Appendix E cont.-Proposed Shift Schedule for Apprentice Training Program

Year Three

<u>Jan 1/10</u>		<u>April 1/10</u>		<u>July 1/10</u>		<u>Oct 1/10</u>	
<u>Crew 1</u>	Gabor Doug G Jamie	<u>Crew 1</u>	Gabor Doug G Jamie	<u>Crew 1</u>	Gabor Doug G Luke	<u>Crew 1</u>	Gabor Doug G Luke
<u>Crew 2</u>	James Ross Derrick	<u>Crew 2</u>	James Ross Derrick	<u>Crew 2</u>	James Ross Jamie	<u>Crew 2</u>	James Ross Jamie
<u>Crew 3</u>	Brian Randy Steve	<u>Crew 3</u>	Brian Randy Michel	<u>Crew 3</u>	Brian Randy Derrick	<u>Crew 3</u>	Brian Randy Derrick
<u>Crew 4</u>	Todd Bruce Jeff	<u>Crew 4</u>	Todd Bruce Jeff	<u>Crew 4</u>	Todd Jeff Michel	<u>Crew 4</u>	Todd Steve Michel
<u>Crew 5</u>	Kevin Sandy Luke	<u>Crew 5</u>	Kevin Sandy Luke	<u>Crew 5</u>	Kevin Sandy Paul	<u>Crew 5</u>	Kevin Sandy Paul
<u>Planning</u>	Doug B Paul	<u>Planning</u>	Doug B Steve	<u>Planning</u>	Doug B Bruce	<u>Planning</u>	Doug B Jeff
<u>Switching</u>	Michel	<u>Switching</u>	Paul	<u>Switching</u>	Steve	<u>Switching</u>	Bruce

Appendix E cont.-Proposed Shift Schedule for Apprentice Training Program

Year Four					
Jan 1/11			July 1/11		
Crew 1	Gabor	SO	Crew 1	Gabor	SO
	Doug G	SO		Michel	SO
	Michel	SW		Doug G	SW
	DRRM 1	SW		DRRM 1	SW
Crew 2	James	SO	Crew 2	Ross	SO
	Ross	SO		Luke	SO
	Luke	SW		James	SW
	DRRM 2	SW		DRRM 2	SW
Crew 3	Brian	SO	Crew 3	Randy	SO
	Steve	SO		Jaime	SO
	Jaime	SW		Steve	SW
	DRRM 3	SW		DRRM 3	SW
Crew 4	Sandy	SO	Crew 4	Todd	SO
	Jeff	SO		Derrick	SO
	Derrick	SW		Jeff	SW
	DRRM 4	SW		DRRM 4	SW
Crew 5	Kevin	SO	Crew 5	Kevin	SO
	Bruce	SO		Paul	SO
	Paul	SW		Bruce	SW
	DRRM 5	SW		DRRM 5	SW
Planning	Doug B		Planning	Doug B	
	Randy			Sandy	
Dayshift	Todd		Dayshift	Brian	

Appendix E cont.-Proposed Shift Schedule for Apprentice Training Program

Year Five

<u>Jan 1/12</u>			<u>July 1/12</u>		
<u>Crew 1</u>	Doug G	SO	<u>Crew 1</u>	Gabor	SO
	Michel	SO		Bruce	SO
	Gabor	SW		Michel	SW
	DRRM 1	SW		DRRM 1	SW
<u>Crew 2</u>	Brian	SO	<u>Crew 2</u>	James	SO
	Luke	SO		Luke	SO
	Ross	SW		Brian	SW
	DRRM 2	SW		DRRM 2	SW
<u>Crew 3</u>	Steve	SO	<u>Crew 3</u>	Randy	SO
	Jaime	SO		Steve	SO
	Randy	SW		Jaime	SW
	DRRM 3	SW		DRRM 3	SW
<u>Crew 4</u>	Jeff	SO	<u>Crew 4</u>	Todd	SO
	Derrick	SO		Jeff	SO
	Todd	SW		Derrick	SW
	DRRM 4	SW		DRRM 4	SW
<u>Crew 5</u>	Bruce	SO	<u>Crew 5</u>	Sandy	SO
	Paul	SO		Paul	SO
	Sandy	SW		Kevin	SW
	DRRM 5	SW		DRRM 5	SW
<u>Planning</u>	Doug B		<u>Planning</u>	Doug B	
	Kevin			Ross	
<u>Dayshift</u>	James		<u>Dayshift</u>	Doug G	

Appendix F- SCADA Technician Job Description

HYDRO OTTAWA**POSITION DESCRIPTION****TITLE:** SCADA Technician**REPORTS TO:** Supervisor Operations Planning – System Operations**LOCATION:** Albion/Merivale/Bank Work Centres

SUMMARY: The SCADA Technician reports to the Supervisor - Operations Planning. This position is responsible for the administration, maintenance, and development of Hydro Ottawa's SCADA (Supervisory Control and Data Acquisition) system including master station hardware and software, Operator User interfaces and displays (GUI's), and data communication systems. This position will collaborate with Stations, Lines, and Asset personnel in the specification, operation, and maintenance of SCADA equipment including remote terminal units (RTU's).

ACCOUNTABILITIES/RESPONSIBILITIES:

The essential responsibilities of the job include but are not necessarily restricted to the following:

- Prepare and evaluate tenders for SCADA hardware and software
- Administer contracts for SCADA equipment vendor licenses and support agreements and communication leases (leased line, fiber, cell, radio, etc.)
- Prepare short and medium term SCADA plans and budgets for management approval
- Administer and troubleshoot various computing and communication systems including Telvent and Quindar SCADA, DNP3 communication protocols, TCP/IP, Unix /VMS and Windows based operating systems.
- In collaboration with the Station's Group, SCADA Technician is accountable for the commissioning, configuration, and administration of multi-vendor remote terminal units (RTU's).
- SCADA User account management, logon procedures, and security related issues.
- Monitor SCADA system performance and take corrective action as required.
- Work with SCADA databases and use a data manipulation language (SQL) to interact with database systems to configure SCADA and develop various SCADA reports
- Work with Graphical User Interfaces and be able to modify and enhance display functionality and ensure all GUIs are synchronized and up to date. Identify new SCADA requirements and functionality.

- Effectively document SCADA related issues including User documentation, project plans, problem report logs Work with Stations, Assets, and Lines in the evaluation and testing of new devices
- Coordinate with other computing systems for corporate data integration
- Provide staff training for SCADA use
- Develop SCADA system documentation for training, trouble shooting, and administration
- Other duties as directed by the Supervisor – Operations Planning related to SCADA Operations.

REQUIRED QUALIFICATIONS

EDUCATION/EXPERIENCE:

- OACETT certification as an Electrical/Electronics Technician, Technologist or a university degree/ 3-year college diploma in a technical discipline
- 5 years experience in an electrical distribution company (LDC) with relevant experience related to SCADA, Electronic Metering & IED's, Control Room environments, hardware and software related to monitoring and control of distribution system devices, Computer Aided Drafting (CAD), and GIS/OMS systems
- Ability to achieve the required level of knowledge and competency as defined in the Telvent Certified SCADA Professionals standard.

COMPETENCIES/SKILLS:

- Working independently with minimal supervision
- Strong working knowledge of personal computers with proficiency in Microsoft Office applications
- Ability to work on SCADA servers that include SQL databases
- Extensive working experience in electronic measurement, computer programming, and communication systems (radio, leased data circuits, fiber optic, etc.)
- Working knowledge of substation equipment and distribution system equipment and operation
- Leadership qualities; thoroughness and ability to follow projects through to completion
- Ability to work in a multi-discipline team environment to achieve results
- Able and willing to learn and adapt to new technologies
- Valid Ontario Class G drivers license

LANGUAGE:

- Bilingualism will be considered an asset

WORKING CONDITIONS

EFFORT:

- Time will be mostly inside office work. Some fieldwork at substations and other distribution system devices will occasionally be required.
- Multiple concurrent work assignments, often with tight guidelines, and time constraints
- The combination of intensity, duration and frequency of concentration is such that the position requires close attention

WORKING CONDITIONS:

- Working overtime and extended hours, as required
- Occasional work in the field
- On-call maybe required.

Appendix G- System Operator Job Description

HYDRO OTTAWA**POSITION DESCRIPTION****TITLE:** System Operator**REPORTS TO:** Supervisor, System Operations**LOCATION:** System Control Center, Merivale Road**SUMMARY:** The System Operator will monitor SCADA systems and respond to distribution system events by analyzing data and directing field crews to ensure safety of personnel, safeguard distribution system equipment, minimize the duration of system disturbances, and maximize system integrity.**ACCOUNTABILITIES/RESPONSIBILITIES:**

The essential responsibilities of the job include but are not limited to the following:

- Continuously monitor the distribution system via SCADA, Power Quality metering, fault detection systems, Outage Management System, or other supervisory systems. Analyze all available data to maintain distribution system integrity and operation within normal parameters. The Operator must react to distribution system disturbances to minimize potential electrical hazards to Hydro Ottawa personnel and the general public, to minimize the duration of power outages, and to safeguard distribution system equipment.
- The System Operator, as part of System Operations, is the Controlling Authority for the Hydro Ottawa electricity distribution system. The System Operator is responsible for directing all field personnel activity related to System Controlled devices during normal and abnormal conditions.
- Prioritize restoration of power with respect to minimizing interruption duration. In the event of large-scale power interruptions, the System Operator is responsible for determining restoration priorities and taking appropriate action. Restoration priorities will be based on the total number and class of customers affected - residential, key account, and other essential services (i.e. hospitals, fire stations, police stations, nursing homes, etc.).
- Contact 24/7 Reliability or On-call personnel to respond to abnormal conditions (during

- business and non-business hours) and direct their system restoration activities.
- Direct all switching procedures.
- Scheduled field activities, including training, switching, troubleshooting and, inspections.
- Directly answer specific customer inquiries and concerns during business and non-business hours.
- Review the electrical distribution system with crews and Supervisors for work protection requests.
- Prioritize and if necessary, reschedule workload as conditions change.
- Provide work and equipment protection for both emergency and non-emergency conditions, using either electronic or manual “hard copy” documents.
- Create and check all “Orders to Operate” and “Work Protection” documents and issue these to the proper work groups, be it Hydro Ottawa personnel or a contracting group for both emergency and non-emergency conditions.
- Ensure field crew and System Operations compliance with the “Utility Work Protection Code”.
- Monitor and correct loading trends to respect equipment ratings and limits.
- Maintain a record log of System Control Centre activities.
- Control “Peak Loads” using voltage reduction and other load control procedures, while constantly monitoring these conditions.
- Communicate with Asset Records and field personnel to maintain current and accurate Operating maps and drawings.

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- Communicate directly with Hydro One, Electrical Safety Authority, Ontario Power Authority, and the Independent Electricity System Operator as required by industry regulation and protocol.
- Training of developmental personnel in respect to System Control Centre responsibilities and functions.
- Assist with queries and questions from other departments inside or outside of Hydro Ottawa.
- Maintain a level of technical competency to use different computer and software applications confidently.
- Communicate system deficiencies appropriately to initiate and expedite repairs.
- Reporting/communication of system events and interruptions accordingly (written and/or verbally).
- Communicate “Power Outage Updates” to Hydro Ottawa management, Public Affairs and Communications personnel, Police, and Fire Department representatives.
- Compile information from Fire, Police or Hydro One to dispatch appropriate personnel and equipment to establish isolation, or erect a safety barrier around, hazardous apparatus such as downed high voltage wires or Hydro poles.
- Issue and record all nomenclature in the electrical system and maintain accurate records.
- Respond accordingly to any alarms coming in on the SCADA system, or other supervisory systems.
- Identify interruption boundaries and activate internal and customer notification systems including “Symon” text messaging, the “RAN”, telephone answering system, to reflect these boundaries.
- Update and maintain system contingency plans.
- Performs other related duties as assigned.

REQUIRED QUALIFICATIONS

EDUCATION/EXPERIENCE:

- OACETT certification as an Electrical/Electronics Technician, Technologist or completion of University degree, or 3 year College Diploma in a technical discipline.
- EDA Certification as a Journeyman Municipal Electrical Operator or equivalent (completion of the Ontario Hydro/Hydro One O.I.T. program, NERC or other RTO Certification).
- Proficiency and technical ability to use applicable computer applications and software, especially SCADA.
- Proficiency and technical ability in the reading of city maps and schematic drawings.
- It is recognized that equivalent experience in System Operations may supersede educational requirements.

COMPETENCIES/SKILLS

- Effective inter-personal skills.
- Demonstrated ability to direct other personnel.
- Demonstrated ability to remain calm and thoughtful in a high stress environment.
- Demonstrated ability to work in a team environment.
- Demonstrated ability to work alone.
- Demonstrated ability to train personnel.
- Demonstrated technical ability to use SCADA systems and personal computer applications including Microsoft Office applications, Outage Management System (OMS), Geographic Information System (GIS).
- Valid drivers license

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LANGUAGE:

- English
- Bilingualism (English and French) will be considered an asset

JOB SPECIFICATIONS

EFFORT:

- Varying physical effort required, minimal during System Office coverage, moderate during field activities.
- Continuous multi-tasking and re-prioritizing.
- Extended periods of high mental and visual concentration.
- Extended periods of high mental stress

WORKING CONDITIONS:

- 24/7 rotating shift cycle.
- Fast paced, high stress, distractive, changing environment.
- Requirement for prompt accurate assessment and reaction to emergency conditions, possibly involving life-threatening situations.
- Requirement to respond professionally to customer issues and inquiries.
- Constant presence for the duration of the shift in System Control Center monitoring the SCADA system, telephones and crew radios with no scheduled breaks or lunch period.
- *Scheduled field activities working in indoor & outdoor substations and line locations including working in close proximity to live apparatus.*
- *Field activities involving work in emergency conditions with exposure to a wide variety of environmental factors and physical activities.*
- Possibility to be called at any time to report to work for emergency workload relief.

Business Case: Addition of Additional SCADA Technician**Executive Sponsor: Bill Bennett****Description of the project:****Add a SCADA Technician trainee to the SCADA & Technical Services Group to manage increased workload.****Why are we doing this project?**

- Hydro Ottawa is undertaking SCADA and Smart Grid (Distribution Automation) projects to provide control room operators and other staff with better tools to manage our SAIDI and SAIFI numbers and improve distribution system reliability. We are starting to work with Stations Group to bring more information back from our Substations and install extra controls for transformer fans etc. This work requires an experienced workforce
- We currently have one experienced SCADA Technician with 3 years experience and we have two new technicians with less than one year experience. We are training our new staff while trying to manage our Capital, SCADA Maintenance and Smart Grid workloads. As a result of our current staffing situation, 2009 projects are being pushed to 2010 and next year's work load appears to be increasing further with new Station Enhancement projects and Smart grid initiatives such as deployment of Vipers, VBMs, FCIs, etc.
- It will take 2-3 years to develop a SCADA technician who is familiar with our SCADA and communication applications as well as having a good understanding of our standards and practices. We should start research and development and training in 2010 on Smart Grid technology. There are plenty of changes in this field and time is required to provide our staff with the required skill set. Assuming that further Smart Grid initiatives will commence

What are the consequences of not doing the project?

- We do not have enough trained staff to carry out this work efficiently.
- We will not have resources to complete 2010 and future workload
- Preventative maintenance will continue to be reduced because of lack of staff

Length of the project?

- This will be a onetime addition of a FTE

What is the financial impact of the project?

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Revenue					
Operating Expense					
Capital Expense					
Additional Headcount	1	0	0	0	0

Tax Implications:

Budget Assumptions:

- An extra vehicle will not be required in 2010 as we train the new SCADA technician who will be working closely with other technicians. An additional vehicle will be required in 2011 as this tech is assigned projects on his own
- Training over next 3-5 years will be required to increase their knowledge

Owner of the Budget:

Business Case: 2010 Business Plan - FTE Addition – GIS Specialist

Executive Sponsor: Bill Bennett

Description of the project:

GIS & Distribution Records is proposing to add one GIS Specialist FTE to deal with the increased volume of OMS and GIS support calls being received since OMS and GIS go-live.

In addition to the volume of support calls, we are trying to address the issue of staff backup for high volume support times, vacations, and sick leave. Presently only one GIS Specialist has sufficient knowledge to diagnose and resolve most OMS issues. The other two GIS Specialist are concentrated on GIS configuration changes and mobile hardware support and deployment. The two can back up the GIS Specialist that has OMS expertise on minor OMS issues but the current support and system administration workload limits their ability to learn more about the OMS. The reduction in on-site hours from full-time to one day per week for our Intergraph resource has compounded the problem.

We have also extended our role to include most Operations IT issues ranging from coordinating PC replacements for Ops to inventory control for hardware, software, and communication devices.

With increased deployment of the GIS and OMS mobile applications that have now become an integral part of daily operations work, dedicated support at the garage ramp has now become a necessity in order to reduce technology delays during working hours.

As we move forward it is important that we have sufficient support to ensure timely response to issues and inquiries to minimize user frustration.

This new position will also require experience in using GeoMedia software that enhances utilization of GIS data for asset management and distribution system study purposes.

Why are we doing this project?

Increase the GIS Specialist FTE count from 3 to 4 and train this individual on the OMS and GIS database structure and software. The staff addition will increase our support coverage ability. This person will additionally be responsible to provide outside staff the dedicated support that is required to ensure efficient operation of the OMS and GIS mobile fleet and maximize usage of GeoMedia GIS analysis software.

Improved response times to technical inquiries and increased support coverage in the event of sick leave and vacations. Mobile units will see improved dedicated support and two existing GIS Specialists will increase their knowledge of OMS technical issues.

What are the consequences of not doing the project?

- Delays in issue resolution
- Loss of momentum and acceptance of new technology
- Lower customer satisfaction
- Staff frustration

Length of the project?

What is the financial impact of the project?

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Revenue					
Operating Expense	\$75k				
Capital Expense					
Additional Headcount	1				

Tax Implications:

Budget Assumptions:

Assume we can find someone with a high skill level in database maintenance, OMS, GIS, GeoMedia, and mobile computer technology.

Owner of the Budget:

GIS & Distribution Records

Business Case: Distribution Design

Executive Sponsor: Norm Fraser

Description of the project:

To keep the correct complement of junior, intermediate, and senior system designers we must continue hiring to replace the future retirees.

The System Designer role is a complex one dealing with many technical issues of electrical and civil design, permits, legislative requirements, customer service, and overall project management. A new System Designer requires extensive development and training to become an efficient and independent employee.

The average time it takes a System Designer to be proficient in all aspects of design is approximately 10 years. The estimated time a System Designer graduates from junior, intermediate and senior are as follows: 1 to 3 years for a junior, 3 to 5 years for a intermediate, and 5 to 10 years for a senior.

Please note that due to hiring freeze in 2009 the System Designer vacant positions were not filled

Refer to the 2009 Report - Workforce Plan for Distribution Design for further information.

Why are we doing this project?

Hydro Ottawa faces increases in workload for the staff for the following reasons:

- Capital work due to the asset management strategy has, and will continue to increase. The asset management plan shows that Hydro Ottawa's aging infrastructure requires increased levels of life extension and replacement work beginning within the next 5 years.
- Demand work continues to increase with residential and commercial developments.
- O.Reg. 22/04 safety and environmental legislation requires a higher standard of care
- It is important to start developing new staff now so that we can rely on these new employees in the near future
- Less adaptable and reduced ability to handle increased workloads.
- Smart Grid and Distribution Generation work will be ramping up.

What are the consequences of not doing the project?

- Corporate knowledge and job processes are best passed on to new staff through their peers
- New staff is estimated to be 30-40% as productive as experienced staff
- To maintain departmental production levels, new staff must be hired and trained for a period of time prior to retirement departures

Length of the project?

What is the financial impact of the project?

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Revenue					
Operating Expense					
Capital Expense					
Additional Headcount	2	2	1	2	2

The above does not include replacements that happen in the same year.

See 2009 "Workforce Plan for Distribution Design" for further details.

Tax Implications:

Budget Assumptions:

Owner of the Budget: Casey Malone

Business Case: **Stations Headcount**

Executive Sponsor: **Norm Fraser/Bill Bennett**

Description of the project:

One Station Electrician is eligible for retirement at the end of 2009. Two Apprentice openings were delayed for 2009. There are also two Station Electricians, one Fitter Mechanic and a Station Coordinator eligible for retirement in the spring of 2010. This accounts to six Station Electricians needed for 2010.

The workload of the Station Technician has increased substantially over the years and hence there is a requirement to increase the numbers from four to five. The technology in station equipment is also changing to more intelligent electronic devices (IED's) and the technology will change depending on the manufacturer. There is also an increased work demand on the commissioning of new stations as well as replacement of existing switchgear. This became highlighted during the commissioning of Cyrville station this year.

Try to overlap the hiring of new staff by one year prior to employees retirement eligibility year for transfer of corporate knowledge.

- Increase the Station Electricians by five for 2010
- Increase the Station Technician by one for 2010

Why are we doing this project?

- Please refer to '[Workforce Plan for Stations 2009](#)' for full details
- It is important to start developing new staff now so that we can rely on these new employees in the near future
- With the number of different asset classes and the number of different manufacturers, it takes at least 10 years experience in this field to have an effective Station Electrician
- Workload is increasing over the next three years, the following table shows a deficit in the amount of man/hours required to accomplish the planned work:
 - Hours for Apprentices assuming 60% productivity
 - Hours available for Capital, Maintenance, or WFO assuming 72% productivity

Planned Work Hours

	<u>2010</u>	<u>2011</u>	<u>2012</u>
Total Electricians Hours	41600	41600	41600
72%	29952	29952	29952
Total Apprentices Hours	10400	10400	10400
60%	6240	6240	6240
Capital	20584	21692	22448
WFO	1560	1560	1560
Maintenance	12500	12500	12500
Transformer Shop	1560	1560	1560
Other Departments	1560	1560	1560
Leftover Man/hours	-1572	-2680	-3436

What are the consequences of not doing the project?

- Corporate knowledge and job processes are best passed on to new staff through their peers
- New staff is estimated to be 30-40% as productive as experienced staff
- To maintain departmental production levels, new staff must be hired and trained for a period of time prior to retirement departures
- Not being able to complete all the planned work

Length of the project?

What is the financial impact of the project?

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Revenue					
Operating Expense					
Capital Expense					
Additional Headcount	2				

- This headcount does not include the overlap of new hires by one year prior to employees retirement eligibility year

Business Case: Addition of 5 Operator Apprentices

Executive Sponsor: Bill Bennett

Description of the project:

Add 5 Apprentice Operators to complete the shift requirements for System Operations to take over the Emergency Response and all ground level switching. Specific Details of the plan are in attached System Operations Workforce Plan.

Why are we doing this project?

- This project began in the fall of 2008 and worked in conjunction with the CAM initiative to redeploy the 24/7 DRRMS into the regional construction and reliability areas.
- In order for Sys Ops to complete our shift coverage to have Field Operators take on some of the current DRRM duties we will need an additional 5 FTEs. Ideally we would like to pull volunteers from the DRRM population but if we don't get any then we will need to hire from the outside.
- This is an important project as it will create alignment and synergy within one group to respond to all emergency and planned switching and also allow us to respond to events faster.
- It provides important organization capacity and succession plan for the System Operator position. Long term, we will have Dispatch, System Operators and Field Operators in a rotational role which will make for a more knowledgeable System Operator.
- This project is also a vital part of allowing the CAM project to convert to the days and afternoon shift model in 2012. The result of that will be reduced overtime costs and more productivity because we will not be relying on the On-Call staff to complete afternoon or overnight work.

What are the consequences of not doing the project?

- We will not be able to fully complete the model for Field Operator and hence will not be staff to respond to the company needs for planned and emergency switching.
- We risk a reduced level of service to our customers as we will not have staff to respond per our OEB requirements

Length of the project?

- The project is already started and has had some training delays. The schedule is to hire these 5 new staff in 2010 so that we can train them to be ready to take on the System Switching by 2012.

What is the financial impact of the project?

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Revenue					
Operating Expense					
Capital Expense					
Additional Headcount	5	0	0	0	0

Tax Implications:

Budget Assumptions:

Owner of the Budget:



1 **Interrogatory**

2

3 **QUESTION #10**

4

5 [Ex. A2/2/3] With respect to the Changes in Accounting Methodology:

6

7 a. Please provide all details currently available as to the impact of IFRS on costs and
8 rate base. Please provide all reports and studies in the possession of the Applicant
9 dealing with IFRS impacts.

10

11 b. P. 3. Please provide details of any asset retirement obligations included in rate base
12 for the Test Year, including any changes in how those AROs were calculated for the
13 Test year as compared to prior years, and including the full calculations of all AROs.

14

15 **Response**

16

17 a. The Canadian Accounting Standards Board (“AcSB”) has issued an exposure draft
18 that would provide a two-year extension on the implementation of IFRS. Hydro
19 Ottawa therefore expects that the IFRS implementation will be January 1, 2013
20 instead of January 1, 2011. The International Accounting Standards Board is
21 currently working on a number of standards that may become effective prior to
22 January 1, 2013 which would change some of the previously determined impacts.
23 Hydro Ottawa has yet to determine which standards and thus what previous work will
24 be impacted, therefore no reports or studies will be provided.

25

26 b. Please see the response to OEB #20 for the details of the Asset Retirement
27 Obligation (“ARO”) included in rate base. There have been no changes in how this
28 ARO was calculated for the test year as compared to prior years.



1 **Interrogatory**

2

3 **QUESTION #11**

4

5 [Ex. A3/1/1, Attach. J] With respect to the 2009 Financial Statements

6

7 a. P. 18. Please provide details of the capital management objectives referred to in
8 Note 16, together with any report, presentation or other document dealing with the
9 company's success in meeting those objectives. Please describe any changes to
10 the capital management objectives for the Test Year.

11

12 b. P. 19. Please list the ten largest customers of the Applicant.

13

14 c. P. 19. Please provide copies of the loan documents relating to the holding
15 company's \$75 million credit facility, and describe any differences between the terms
16 of that credit facility and the terms under which the Applicant borrows from the
17 holding company under the grid note.

18

19 **Response**

20 a. The capital management disclosures presented in Note 16 satisfy the requirements
21 of the CICA Handbook Section 1535 – “Capital Disclosures”, which requires
22 additional disclosure in the notes to the financial statements about capital and the
23 manner in which it is managed. The intent of this section is to enable users of the
24 financial statements to evaluate the entity's objectives, policies and processes for
25 managing capital.

26

27 Hydro Ottawa does not prepare formal reports, presentation or other documents
28 dealing with the company's success in meeting its capital management objectives.
29 Internally, management evaluates performance using such indicators as meeting or
30 exceeding Ontario Energy Board (the “Board”) service standards, maintaining a
31 capital structure close to the Board's deemed capital structure, delivering appropriate



1 financial returns to shareholders, ensuring compliance with all financial and debt
2 covenants and consistently maintaining a high credit rating.

3
4 Hydro Ottawa does not expect there to be any changes to the capital management
5 objectives for the Test Year.

6
7 b. Hydro Ottawa does not believe it is appropriate to release the names of individual
8 customers. The following table provides information on Hydro Ottawa’s ten largest
9 customers without divulging their identity.

10
11 **Table 1 – Hydro Ottawa Ten Largest Customers**

#	Sector	2009 Distribution Revenue \$M
1	Federal	4.0
2	MUSH	3.4
3	MUSH	1.0
4	Corporate	0.8
5	Corporate	0.6
6	MUSH	0.6
7	MUSH	0.6
8	MUSH	0.6
9	Corporate	0.5
10	MUSH	0.4

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25 c. The loan document requested has been included as Attachment 1. This is the most
26 recent renewal which reflects improved pricing from the previous agreement which
27 was in effect at the time of the cost of service application. The terms and conditions
28 applicable to Hydro Ottawa Limited (“Hydro Ottawa”), as well as the rates found in
29 the Holding Company’s credit facility agreement are passed directly through to Hydro
30 Ottawa as per the credit agreement between the Holding Company and Hydro



- 1 Ottawa. The Holding Company charges a .1% administration fee as per the
- 2 agreement with Hydro Ottawa.

July 9, 2010

Hydro Ottawa Holding Inc.
3025 Albion Road North
Ottawa, Ontario.
K1G 3S4



Attention: Mr. Alan Hoverd, Chief Financial Officer

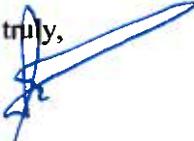
Dear Mr. Hoverd:

We confirm that, subject to acceptance by you, The Bank of Nova Scotia (the "Bank") will make available to Hydro Ottawa Holding Inc. (the "Borrower") credit facilities on the terms and conditions set out in the attached Terms and Conditions Sheet and in Schedule "A".

If the arrangements set out in this letter, and in the attached Terms and Conditions Sheet and Schedule "A" (collectively the "Commitment Letter") are acceptable to you, please sign the enclosed copy of this letter in the space indicated below and return the letter to us by the close of business on July 30, 2010, after which date this offer will lapse.

This Commitment Letter replaces all previous commitments issued by the Bank to the Borrower.


B. Lynch
Senior Credit Solutions Manager

Yours truly,

L. Bastianelli
Director, Commercial Banking

With changes to Canadian Accounting Standards commencing January 1, 2011 (i.e. transition to International Financial Reporting Standards ("IFRS"), Private Enterprise GAAP, and Not-for-Profit GAAP), the Bank recommends the Borrower consult with their accounting advisor to assess potential impact and ensure timely transition.

~~By signing this Commitment Letter you confirm that the products and services offered to you herein will not be used for or on behalf of any individual or entity other than you and the other parties named in the Commitment Letter for whose benefit such products and services are intended.~~

The arrangements set out above and in the attached Terms and Conditions Sheet and Schedule "A" (collectively the "Commitment Letter") are hereby acknowledged and Accepted by:

Hydro Ottawa Holding Inc.
Name
By: 
Title:
Date: July 15/10

By: 
Title:
Date: July 15/2010

TERMS AND CONDITIONSCREDIT NUMBER: 01AUTHORIZED AMOUNT: \$75,000,000**TYPE**

364 Day Revolving Term

PURPOSE

To assist with financing day to day general operating requirements.

CURRENCY

Canadian dollars

AVAILMENT

The Borrower may avail the Credit by way of direct advances evidenced by Grid Note and/or Bankers' Acceptances in Canadian dollars in multiples of \$500,000 and having terms of maturity of 7 to 180 days without grace.

INTEREST RATE/FEE

The Bank's Prime Lending Rate from time to time, per annum with interest payable monthly.

ACCEPTANCE FEES

A Bankers' Acceptance Fee of 1.25% per annum, subject to a minimum fee of \$500 per availment, payable at the time of each availment.

OTHER FEES

A Standby Fee of 0.25% per annum on the daily unused portion of the credit, is payable monthly.

DRAWDOWN

Advances are to be made in minimum amounts of \$500,000.

REPAYMENT

The Credit will revolve, and the principal may be drawn, repaid and redrawn at any time until July 14, 2011 (the "Revolving Term Maturity Date"). Unless the Credit is extended, the Credit shall terminate and all amounts outstanding or accrued under the Credit shall be due and payable on the Revolving Term Maturity Date.

The Borrower has the option, provided written notice has been received by the Bank at least 60 days prior to the Revolving Term Maturity Date, to request extension of the Revolving Term Maturity Date for a further period not to exceed 364 days. Any extension of the Revolving Term Maturity Date is subject to the Bank's absolute discretion and written approval.

SPECIFIC SECURITY

The following security, evidenced by documents in form satisfactory to the Bank and registered or recorded as required by the Bank, is to be provided prior to any advances or availment being made under the Credit:

Bankers' Acceptance Agreement

CREDIT NUMBER: 02 AUTHORIZED AMOUNT: \$17,500,000

TYPE

Standby Letters of Credit / Letters of Guarantee

PURPOSE

To provide prudential support to the Independent Electricity System Operator ("IESO") of the Ontario electricity wholesale market operating under the Ontario Electricity Act. The facility may also be used by the Borrower and/or its subsidiaries to secure sundry obligations.

CURRENCY

Canadian dollars

AVAILMENT

The Borrower may avail the Credit by way of Standby Letters of Credit and/or Letters of Guarantee (with each availment subject to completion of an Application and Agreement for Irrevocable Standby Letter of Credit/Letter of Guarantee in a form satisfactory to the Bank) issued for periods not to exceed one year from date of issuance.

COMMISSION

0.50% per annum, calculated on the issue amount, based on increments of 30 days or multiples thereof, from date of issuance to expiry date. Periods of less than 30 days will be counted as a thirty day increment. The amount is subject to the Bank's minimum fee as well as revision at any time and is payable upon issuance.

CREDIT NUMBER: 03 AUTHORIZED AMOUNT: \$50,000,000

TYPE

5 Year Revolving Term

PURPOSE

To assist with financing capital expenditures and permitted acquisitions.

CURRENCY

Canadian dollars

AVAILMENT

The Borrower may avail the unavailed portion of the Credit by way of direct advances evidenced by Promissory Notes and/or Bankers' Acceptances in Canadian dollars in multiples of \$500,000 and having terms of maturity of 30 to 180 days without grace. The unavailed portion of the Credit is subject to Annual Review, which review shall include the general terms and conditions and the Interest Rate and Fees.

INTEREST RATE/FEE

The Bank's Prime Lending Rate from time to time, plus 0.25% per annum with interest payable monthly.

ACCEPTANCE FEES

A Bankers' Acceptance Fee of 2.00% per annum, subject to a minimum fee of \$500 per availment, payable at the time of each availment.

OTHER FEES

A Standby Fee of 0.40% per annum on the daily unused portion of the credit, is payable monthly.

DRAWDOWN

Advances are to be made in minimum amounts of \$500,000.

REPAYMENT

The Credit will revolve, and the principal may be drawn, repaid and redrawn at any time until July 15, 2015 (the "Revolving Term Maturity Date"). Unless the Credit is extended, the Credit shall terminate and all amounts outstanding or accrued under the Credit shall be due and payable on the Revolving Term Maturity Date – July 15, 2015.

SPECIFIC SECURITY

The following security, evidenced by documents in form satisfactory to the Bank and registered or recorded as required by the Bank, is to be provided prior to any advances or availment being made under the Credit:

Banker's Acceptance Agreement.

CREDIT NUMBER: 04

AUTHORIZED AMOUNT: \$150,000

TYPE

Scotiabank VISA Business Card. Availment, interest rate and repayment as per Cardholder Agreement.

GENERAL SECURITY, TERMS AND CONDITIONS APPLICABLE TO ALL CREDITS**GENERAL SECURITY**

The following security, evidenced by documents in form satisfactory to the Bank and registered or recorded as required by the Bank, is to be provided prior to any advances or availment being made under the Credits:

Negative Pledge Agreement acknowledged and accepted by Hydro Ottawa Holding Inc., Energy Ottawa Inc., Hydro Ottawa Limited and Telecom Ottawa Holding Inc. confirming that they will not further encumber their assets to any other party, except encumbrances within the definition of "Permitted Encumbrance", without the prior written consent of the Bank.

"Permitted Encumbrance" is defined, with respect to Hydro Ottawa Holding Inc., Hydro Ottawa Limited, Energy Ottawa Inc. and Telecom Ottawa Holding Inc., as any of the following:

- (a) purchase money security interests, capital leases and other encumbrances not exceeding in an aggregate amount of \$5,000,000;
- (b) liens for taxes, payments in lieu of taxes, assessments, government charges or claims not yet due or for which instalments have been paid based on reasonable estimates pending final assessments, or if due, the validity of which is being contested in good faith, on in respect of which appropriate provision is made in consolidated financial statements of the Borrower;
- (c) a lien or deposit under workers' compensation, social security or similar legislation or deposits to secure public or statutory obligations;
- (d) a lien or deposit of cash or securities in connection with contracts, bids, tenders, leases or expropriation proceedings or to secure surety and appeal bonds not exceeding an aggregate amount of \$1,000,000 at any time;
- (e) a lien or privilege imposed by law, such as a builder's, carrier's, warehousemen's, landlord's mechanic's, supplier's or other similar liens and public, statutory and other like obligations incurred in the ordinary course of business;
- (f) a lien or right of distress reserved in or exercisable under any lease, for rent or for compliance with the terms of the lease;
- (g) undetermined or inchoate liens, rights of distress, privileges and charges incidental to current operations which have not at such time been filed or exercised or which relate to obligations not due or payable, or if due, the validity of which is being contested diligently and in good faith by appropriate proceedings;
- (h) reservations, limitations, provisos and conditions expressed in any original grants from the Crown or other grants of real or immovable property, or interests therein, which do not materially affect the use of the affected land for the purpose for which it is being used;
- (i) title defects, encroachments or irregularities or other matters relating to title which in the aggregate do not materially impair the use of the affected property for the purpose for which it is used;
- (j) zoning, land use and building restrictions, by-laws, regulations and ordinances of federal, provincial, state, municipal and other governmental authorities, licences, easements, rights-of-way, rights in the nature of easements (including, without limiting the generality of the foregoing, licences, easements, rights-of-way and

- rights in the nature of easements for railways, sidewalks, public ways, sewers, drains, gas, steam and water mains or electric light and power, or telephone and telegraph conduits, poles, wires and cables) which do not materially impair the use of the affected land for the purpose for which it is being used;
- (k) any right reserved to or vested in any municipality or governmental or other public authority by the terms of any lease, licence, franchise, grant or permit acquired by that person or by any statutory provision to terminate any lease, licence, franchise, grant or permit, or to require annual or other payments as a condition for the continuance thereof;
 - (l) security given to a public utility or any municipality or governmental authority when required by such utility or authority in connection with the operations of that person in the ordinary course of business;
 - (m) security for costs of litigation where required by law;
 - (n) attachments, judgements and other similar encumbrances arising in connection with court proceedings; provided that the encumbrances are in existence for less than 30 days after their creation or the execution or other enforcement of the encumbrances is effectively stayed or the claims so secured are being actively contested in good faith and by proper legal proceedings;
 - (o) encumbrances, if any, granted to BNY Trust Company of Canada for and on behalf of each holder of a debt instrument pursuant to a capital markets issuance issued under a Trust Indenture, provided that the Bank is granted the same security and the security granted to Bank ranks on a *pari passu* basis with the capital markets issuance.

The Borrower shall pay the Bank in priority to all amounts owed by the Borrower to Hydro Ottawa Limited, Energy Ottawa Inc. and Telecom Ottawa Holding Inc. The Borrower, Hydro Ottawa Limited, Energy Ottawa Inc., Telecom Ottawa Holding Inc. and the Bank has executed an Inter-Creditor Agreement dated February 19, 2009 pursuant to which amounts owing by the Borrower to the Bank will be paid prior to amounts owing to the other parties to the Agreement.

~~Postponement Agreements for all amounts owing by the Borrower (unspecified amounts) to Energy Ottawa Inc., Hydro Ottawa Limited, and Telecom Ottawa Holding Inc. from each creditor.~~

GENERAL CONDITIONS

Until all debts and liabilities under the Credits have been discharged in full, the following conditions will apply in respect of the Credits:

An event of default shall be deemed to have occurred if the Borrower and/or its subsidiaries further encumber their assets in contravention of the Negative Pledge provided to the Bank.

The Borrower shall provide evidence that borrowings are approved by the Ontario Energy Board or such other regulatory body as may be required under the Energy Competition Act.

Business activities to be restricted to those permitted pursuant to Section 73 of the Ontario Energy Board Act 1998.

Tangible Net Worth (TNW), calculated on the basis of the consolidated results for Hydro Ottawa Holding Inc. is to be maintained in excess of \$175,000,000 at all times.

TNW is defined as the sum of share capital, earned and contributed surplus less (i) amounts due from officers/affiliates, (ii) investments in affiliates, and (iii) intangible assets as defined by the Bank.

The ratio of Total Debt to Capitalization is not to exceed 0.75:1 calculated on the basis of the consolidated results for Hydro Ottawa Holding Inc.

Capitalization is defined as total debt as defined by the Bank plus the sum of share capital, earned and contributed surplus.

Without the Bank's prior written consent, such consent not to be unreasonably withheld or delayed:

No change in ownership is permitted.

No dividends, withdrawals, bonuses, advances to shareholders, management or affiliates are permitted which would place any Bank credit conditions in default.

Guarantees or other contingent liabilities are not to be entered into and assets are not to be further encumbered in excess of \$3,000,000. Other contingent obligations not to be incurred if they would have a material adverse effect on the financial position of the Borrower and its subsidiaries taken as a whole.

Subsidiaries designated as Hydro Ottawa Limited, Energy Ottawa Inc. and Telecom Ottawa Holding Inc., are not to incur further indebtedness (other than inter-corporate indebtedness or indebtedness to/from the Borrower), with the exception of "Permitted Encumbrances" and Lease transactions having an aggregate balance of no greater than \$5,000,000.

No mergers, Permitted Acquisitions* representing more than 20% of TNW or material change in the Borrower's primary line of business are permitted. TNW is calculated on the basis of the Consolidated results for Hydro Ottawa Holding Inc.

*Permitted Acquisitions include any non-hostile Acquisitions with respect to which:

- a) The business of the entity being acquired (in the case of Equity Acquisition) or the assets being acquired are being used in or relate to (in the case of an Asset Acquisition) the Business.**
- b) No Pending Event of Default or Event of Default exists at the time of such proposed Acquisition and no Pending Event of Default or Event of Default would exist immediately after the implementation of such proposed Acquisition.
- c) The Debt to Capitalization covenant would be met, on a pro forma basis, immediately after the implementation of any such Proposed Acquisition.
- d) The Borrower has provided the Bank with notice of such Acquisition at least 5 business days prior to the completion of such Acquisition.

**Business is defined as those business activities permitted pursuant to Section 73 of the Ontario Energy Board Act 1998

Additional terms and conditions in Schedule A are to apply.

If there is any change from the accounting policies, practices and calculation methods used by the Borrower in preparing any part of its financial statements for the fiscal year most recently completed before the date of this Commitment Letter, the Borrower shall provide the Bank with all information that the Bank requires to ensure that reporting provided to the Bank after any changes are comparable to previous reporting. In addition, all calculations made for the purposes of this Commitment Letter shall continue to be made based on the accounting policies, practices and calculation methods in effect as at the date of the financial statements for the most recently completed fiscal year. In the event of a change in the accounting policies, practices and calculation methods, the Bank retains the right (a) to act on any default under the financial covenants or any other terms and conditions as defined in this Commitment Letter that is disclosed by applying the previous accounting policies, practices and calculation methods and (b) at its discretion and acting reasonably, to amend/reset covenants that are affected by the change.

GENERAL BORROWER REPORTING CONDITIONS

Annual Audited Consolidated and Unaudited Unconsolidated Financial Statements, prepared in accordance with the elected Generally Accepted Accounting Principle ("GAAP") applicable at the date of the financial statements, within 120 days of the Borrower's fiscal year end, duly signed.

Copy of approved annual budget to be submitted in conjunction with annual audited consolidated and unaudited unconsolidated financial statements, within 120 days of the Borrower's fiscal year end.

Annual Audited Financial Statements for Hydro Ottawa Limited and Energy Ottawa Inc., prepared in accordance with the elected Generally Accepted Accounting Principle ("GAAP") applicable at the date of the financial statements, within 120 days of the respective fiscal year end, duly signed.

Annual Internally Prepared Financial Statements for Telecom Ottawa Holding Inc, within 120 days of the respective fiscal year end.

Quarterly Interim Consolidated Financial Statements of the Borrower, within 60 days of period, with the exception of 120 days for the period ended December 31st.

Annual certificate signed by the Borrower confirming that all Ministry of Environment requirements are being met and that there are no outstanding active environmental orders.

A Quarterly Compliance Certificate signed by the Chief Financial Officer of the Borrower, certifying that the Borrower is in compliance with all conditions of the credit facility and that there has been no breach of conditions of credit during the quarter, other than as outlined in the Compliance Certificate, within 60 days of the end of each fiscal quarter of the Borrower, with the exception of 120 days of the end of the quarter ended December 31st. The Borrower is also to certify as to compliance/non-compliance with any other Lender.

OTHER FEES AND COMMISSIONS

An Annual Renewal Fee in the amount of \$5,000 is payable by the Borrower each year.

SCHEDULE AADDITIONAL TERMS AND CONDITIONS APPLICABLE
TO ALL CREDITSCalculation and Payment of Interest

1. Interest on loans/advances made in Canadian dollars will be calculated on a daily basis and payable monthly on the 22nd day of each month (unless otherwise stipulated by the Bank). Interest shall be payable not in advance on the basis of a calendar year for the actual number of days elapsed both before and after demand of payment or default and/or judgment.

Interest on Overdue Interest

2. Interest on overdue interest shall be calculated at the same rate as interest on the loans/advances in respect of which interest is overdue, but shall be compounded monthly and be payable on demand, both before and after demand and judgment.

Indemnity Provision

3. If the introduction or implementation of, or any change in, or in the interpretation of, or any change in its application to the Borrower of, any law or any regulation or guideline issued by any central bank or other governmental authority (whether or not having the force of law), including, without limitation, any reserve or special deposit requirement or any tax (other than tax on the Bank's general income) or any capital requirement, has due to the Bank's compliance the effect, directly or indirectly, of (i) increasing the cost to the Bank of performing its obligations hereunder or under any availment hereunder; (ii) reducing any amount received or receivable by the Bank or its effective return hereunder or in respect of any availment hereunder or on its capital; or (iii) causing the Bank to make any payment or to forgo any return based on any amount received or receivable by the Bank hereunder or in respect of any availment hereunder, then upon demand from time to time the Borrower shall pay such amount as shall compensate the Bank for any such cost, reduction, payment or forgone return (collectively "Increased Costs") as such amounts are calculated in a certificate reasonably prepared by the Bank.

In the event of the Borrower becoming liable for such Increased Costs, the Borrower shall have the right to prepay in full, without penalty, the outstanding principal balance under the affected credit other than the face amount of any document or instrument issued or accepted by the Bank for the account of the Borrower, including, without limitation, a Letter of Credit, a Letter of Guarantee or a Bankers' Acceptance. Upon any such prepayment, the Borrower shall also pay the then accrued interest on the amount prepaid and the Increased Costs to the date of prepayment together with such amount as will compensate the Bank for the cost of any early termination of its funding arrangements in accordance with its normal practices, as such amounts are calculated in a certificate reasonably prepared by the Bank.

Calculation and Payment of Bankers' Acceptance Fee

4. The fee for the acceptance of each Bankers' Acceptance will be payable on the face amount of each Bankers' Acceptance at the time of acceptance of each draft calculated on the basis of a calendar year for the actual number of days elapsed from and including the date of acceptance to the due date of the draft.

Calculation and Payment of Standby Fee

5. Standby fees shall be calculated daily on the unused portion of Credit Number 01 and Credit Number 03 and payable monthly on the basis of a calendar from the date of acceptance by the Borrower of this Commitment Letter.

Environment

6. The Borrower represents to the bank that (i) neither the Borrower nor any of its subsidiaries is subject to any civil or criminal proceeding or investigation relating to applicable environmental laws and neither it nor any of its subsidiaries is aware of any threatened proceeding or investigation relating to requirements of applicable environmental laws other than for non-material matters arising in the normal course of business none of which, individually or in the aggregate, could reasonably be expected to have a material adverse effect on the Borrower and its subsidiaries, taken as a whole; (ii) each of the Borrower and its subsidiaries has all material permits, licences, registrations and other authorizations required by applicable environmental laws for the operation of its business and the properties which it owns, leases or otherwise occupies; (iii) no hazardous substances are or have been stored or disposed of by the Borrower or any of its subsidiaries or otherwise used in violation of any applicable environmental laws (including, without limitation, release of hazardous substances by the Borrower or any of its subsidiaries at, on or under any property now or previously owned or leased by the Borrower or any of its subsidiaries) that have, or could reasonably be expected to have, a material adverse effect on the Borrower and its subsidiaries taken as a whole.

The Borrower shall and shall cause each of its subsidiaries to operate its business in compliance with applicable environmental laws other than those in respect of which non-compliance could not reasonably be expected to have a material adverse effect on the Borrower and its subsidiaries taken as a whole and operate all property owned, leased or otherwise used by it such that no obligation, including a clean-up or remedial obligation, shall arise under any applicable environmental law other than obligations that could not reasonably be expected to have a material adverse effect on the Borrower and its subsidiaries taken as a whole.

Notice of Drawdown/Payments

7. The Borrower shall give the Bank prior notice of a drawdown or payment of any loan/advance as follows:
- two bank business days when the amount is \$25 million dollars or more excluding any loan/advance required to permit Hydro Ottawa Limited to pay amounts due to the Independent Electrical System Operator ("IESO").
 - Bank business day(s) includes the day of advance/payment.

Initial Drawdown

8. The right of the Borrower to obtain the initial drawdown under the Credit(s) is subject to the condition precedent that there shall not have been any material adverse changes in the financial condition or the environmental condition of the Borrower or any guarantor of the Borrower.

Periodic Review

9. The obligation of the Bank to make further advances or other accommodation available under any Credit(s) of the Borrower under which the indebtedness or liability of the Borrower is payable on demand, is subject to periodic review and to no adverse change occurring in the financial condition or the environmental condition of the Borrower or any guarantor.

Evidence of Indebtedness

10. The Bank's accounts, books and records constitute, in the absence of manifest error, conclusive evidence of the advances made under the Credit Facilities, repayments on account thereof and the indebtedness of the Borrower to the Bank.

Acceleration

11. All indebtedness and liability of the Borrower to the Bank not payable on demand, shall, at the option of the Bank, become immediately due and payable, the security held by the Bank shall immediately become enforceable, and the obligation of the Bank to make further advances or other accommodation available under the Credits shall terminate, if any one of the following Events of Default occurs:
- (i) the Borrower or any guarantor fails to make when due, or at a fixed payment date, by acceleration or otherwise, any payment of interest, principal, fees, commissions or other amounts payable to the Bank;
 - (ii) there is a breach by the Borrower or any guarantor of any other term or condition contained in this Commitment Letter or in any other agreement to which the Borrower and/or any guarantor and the Bank are parties;
 - (iii) any default occurs under any security listed in this Commitment Letter under the headings "Specific Security" or "General Security" or under any other credit, loan or security agreement to which the Borrower and/or any guarantor is a party;
 - (iv) any bankruptcy, re-organization, compromise, arrangement, insolvency or liquidation proceedings or other proceedings for the relief of debtors are instituted by or against the Borrower or any guarantor and, if instituted against the Borrower or any guarantor, are allowed against or consented to by the Borrower or any guarantor or are not dismissed or stayed within 60 days after such institution;
 - (v) a receiver is appointed over any property of the Borrower or any guarantor or any judgement or order or any process of any court becomes enforceable against the Borrower or any guarantor or any property of the Borrower or any guarantor or any creditor takes possession of any property of the Borrower or any guarantor;
 - (vi) any course of action is undertaken by the Borrower or any guarantor or with respect to the Borrower or any guarantor which would result in the Borrower's or guarantor's reorganization, amalgamation or merger with another corporation or the transfer of all or substantially all of the Borrower's or any guarantor's assets;
 - (vii) any guarantee of indebtedness and liability under the Credit Line is withdrawn, determined to be invalid or otherwise rendered ineffective;
 - (viii) any adverse change occurs in the financial condition of the Borrower or any guarantor.
 - (ix) any adverse change occurs in the environmental condition of:
 - (A) the Borrower or any guarantor of the Borrower; or
 - (B) any property, equipment, or business activities of the Borrower or any guarantor of the Borrower.

Costs

12. All reasonable costs, as determined by the Bank, including legal fees incurred by the Bank relative to security and other documentation and the enforcement thereof, shall be for the account of the Borrower and may be charged to the Borrower's deposit account when submitted.



1 **Interrogatory**

2

3 **QUESTION #12**

4

5 [Ex. B1/1/1] With respect to the Rate Base Exhibit:

6

7 a. P. 2. Please provide details of all accounting entries that took place when 90 Maple
8 Grove was removed from rate base. Please advise the original cost of the asset
9 removed from rate base, the accumulated depreciation for regulatory purposes, the
10 undepreciated capital cost for tax purposes, and the current fair market value.

11 Please provide any valuations of the asset in the last five years. Please provide any
12 revenue and cost data including forecasts.

13

14 b. P. 2. Please provide details of all accounting entries that took place when the Bank
15 Street and Merivale solar panel installations were removed from rate base. Please
16 advise the original cost of the assets removed from rate base, the accumulated
17 depreciation for regulatory purposes, the undepreciated capital cost for tax purposes,
18 and the current fair market value. Please provide any valuations of the assets in the
19 last five years. Please provide a copy of the MicroFIT contracts, and all revenue
20 forecasts relating to these installations.

21

22 **Response**

23 a. Removing assets from rate base does not require accounting entries *per se*, it
24 requires a remapping of the assets and accumulated amortization to different
25 Uniform System of Account (“USoA”) accounts as per Table 1 below.

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Table 1 – Removing 90 Maple Grove from Rate Base

	Old USoA		New USoA	
90 Maple Grove land	1905	Land	2070	Other Utility Plant
90 Maple Grove building	1908	Buildings and Fixtures	2070	Other Utility Plant
Accumulated Amortization	2105	Accumulated. Amortization of Electric Utility Plant - Property, Plant, & Equipment	2160	Accumulated Amortization of Other Utility Plant

2

3 The original cost of the asset was \$2,893,312 and as of December 31, 2009 the
4 accumulated amortization was (\$923,825) for a Net Book Value of \$1,969,487. The
5 undepreciated capital cost for tax purposes is \$1.2M and the current fair market
6 value is \$1.8M. Please see the response to SEC #13f for information on valuations
7 of the asset in the last five years.

8

9 For 2011, the budgeted revenue is \$125k and the budgeted expenses, which are not
10 part of the revenue requirement, are shown on the following table:

11

12

Table 2 – Maple Grove Expenses

Expense	\$000
Utilities	\$ 48
Maintenance	\$ 63
Property Insurance	\$ 8
Property Taxes	\$ 149
TOTAL	\$ 267

13

14

15 b. The solar panel installations at Bank and Merivale were removed from rate base by
16 remapping the USoA account for the fixed asset and the accumulated amortization
17 as shown in Table 2 below.

18



1

Table 2 – Removing Solar Panels from Rate Base

	Old USoA		New USoA	
Solar Panels	1908	Buildings and Fixtures	2070	Other Utility Plant
Accumulated Amortization	2105	Accumulated. Amortization of Electric Utility Plant - Property, Plant, & Equipment	2160	Accumulated Amortization of Other Utility Plant

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Hydro Ottawa does not have the current fair market value of the solar installations and has not done any valuations of these assets in the last five years. Copies of the microFIT contracts are provided in Attachment 1. The revenue forecast relating to each installation is: 1.56kW/system x 1,200 (average hours of sunlight in Ottawa per year) x \$0.802 (contracted price) = \$1,501 annually per system.



Ontario Power Authority ("OPA") and Hydro Ottawa Limited ("Supplier") hereby enter into this microFIT Contract. OPA and Supplier are referred to in this microFIT Contract jointly as "Parties" or individually as "Party." In consideration of the mutual promises and obligations stated in this agreement, the Parties agree as follows:

1. DOCUMENTS INCLUDED; DEFINED TERMS

This Contract includes the Agreement and the following appendices, which are specifically incorporated herein and made a part of this Agreement (*check all that apply*):

- Appendix A - Definitions
- Appendix B - Calculation of Indexed Contract Price (*use if Percentage Escalated applies*)
- Appendix C - Solar PV Schedule (*use if solar photovoltaic facility*)
- Appendix D-1 - Directly Connected Facility Schedule (*use if Directly Connected Facility*)
- Appendix D-2 - Indirectly Connected Facility Schedule (*use if Indirectly Connected Facility*)
- Appendix E - Incremental Project Schedule (*use if Incremental Project*)
- Appendix F - LDC Schedule (*use if LDC is Supplier*)

This agreement and the Appendices incorporated herein and made a part hereof are together referred to as this "Contract."

2. GENERATING FACILITY

2.1 Facility. This Contract governs OPA's procurement of electricity from the electrical generating facility (hereinafter referred to as the "Facility") described in this Section.

2.1.1 The Facility is connected directly or indirectly to the Hydro Ottawa Limited ("LDC") distribution system.

2.1.2 Supplier (*check one*):

is **not** the same legal entity as LDC.

is the same legal entity as LDC.

2.1.3 The name and account number the LDC associated with the Facility is:

Name:	Hydro Ottawa
LDC Account Number:	5315384913

2.1.4 The Facility is located in Ontario at the following location (insert municipal address or if there is no municipal address or location, insert legal description for property).

1970 Merivale Road,
Nepean
ON, K2G6Y9

2.1.5 The Facility's Renewable Fuel is solar photovoltaic.

2.1.6 The Facility has a Nameplate Capacity of 1.56 kilowatts ("kW"). Supplier shall



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2.1.2 Supplier (*check one*):

- is **not** the same legal entity as LDC.
- is the same legal entity as LDC.

2.1.3 The name and account number the LDC associated with the Facility is:

Name:	Hydro Ottawa
LDC Account Number:	1228066519

2.1.4 The Facility is located in Ontario at the following location (insert municipal address or if there is no municipal address or location, insert legal description for property).

4565 Bank Street,
Ottawa
ON, K1T3W6

2.1.5 The Facility's Renewable Fuel is solar photovoltaic.

2.1.6 The Facility has a Nameplate Capacity of 1.56 kilowatts ("kW"). Supplier shall

not modify the Facility to increase the Nameplate Capacity. In no event shall the Nameplate Capacity of the Facility exceed 10 kW.

2.1.7 The Facility (*check one*):

- is a Directly Connected Facility.
- is an Indirectly Connected Facility.

2.1.8 The Facility (*check one*):

- is **not** an Incremental Project.
- is an Incremental Project.

3. Term

This Contract shall commence as of March 11, 2010 and end on March 11, 2030 (the "**Term**").

4. PRICING PROVISIONS AND PAYMENT

4.1 Contract Price. The Contract Price is \$ 80.2 ¢/kWh.

4.2 Percentage Escalated. The Percentage Escalated:

- does **not** apply (e.g., in the case of solar photovoltaic facilities).
- applies.

4.3 Indexed Contract Price. The Indexed Contract Price in respect of any hour of electricity generation is:

4.3.1 where the Percentage Escalated does not apply, an amount equal to the Contract Price.

4.3.2 where the Percentage Escalated applies, an amount equal to the Indexed Contract Price determined in accordance with Appendix B.

4.4 Payment. Once both Parties have executed this Contract, Supplier shall be paid the Indexed Contract Price for the electricity generated by the Facility and successfully injected into LDC's distribution system, as described in this Section (the "Generation Payments"):

4.4.1 The Parties hereby designate LDC as the exclusive settlement agent for all Generation Payments on behalf of both the OPA and the Supplier.

4.4.2 Generation Payments shall be settled periodically and on a schedule consistent with the monthly, bimonthly, quarterly or other periodic billing cycle of LDC (the "Settlement Period") and otherwise in accordance with the provisions of the Retail Settlement Code, provided that if the Term begins on a day other than the first day of the Settlement Period, the initial payment may be deferred and incorporated with that of the first full Settlement Period following the commencement of the Term. All settlement documentation, requirements and details, including the date that any Generation Payment is due and the statement of amounts owing shall be governed by the applicable LDC.

4.4.3 If requested by OPA, Supplier shall provide OPA any additional documentation necessary in order to establish any claim for any input tax credit or rebate in respect of any Sales Tax incurred by OPA in connection with this Contract. OPA may reduce and offset any amount due to Supplier by the amount of any loss or damage suffered by OPA or amount assessed against OPA, arising out of a failure by Supplier to comply with this Section.

- 4.4.4 Supplier shall refund to OPA any amount collected as, or on account, of Sales Tax, that was collected in error by Supplier from OPA. OPA may reduce and offset any amount due to Supplier by the amount of such refund that is due to OPA.
- 4.4.5 Supplier shall notify OPA promptly of any change in its Sales Tax registration status, including becoming a Sales Tax registrant or ceasing to be a Sales Tax registrant.
- 4.4.6 If the Supplier is a non-resident of Canada, as that term is defined in the ITA, then Generation Payments shall be reduced by the amount of any applicable withholding or similar taxes. OPA may reduce or offset any amount due to Supplier by the amount of withholding taxes (and interest thereon) assessed against the OPA with respect to the Generation Payments paid to the Supplier. OPA may also reduce and offset any amount due to Supplier by the amount of any loss or damage suffered by OPA or amount assessed against OPA, arising out of any misrepresentation by Supplier as to its residency.
- 4.4.7 Supplier shall notify OPA promptly if it becomes a non-resident of Canada, as that term is defined in the ITA.
- 4.4.8 OPA may, on not less than 30 days' prior notice to Supplier, designate an alternative settlement agent or implement alternative settlement mechanics to those set out in Section 4.4.1 and 4.4.2.

5. ENVIRONMENTAL ATTRIBUTES

- 5.1 Transfer. Supplier hereby transfers and assigns to, or to the extent transfer or assignment is not permitted, holds in trust for, OPA who thereafter shall retain, all rights, title, and interest in all Environmental Attributes associated with the Facility.
- 5.2 Action to Transfer. Supplier shall from time to time during the Term, upon written direction of OPA, take all such actions and do all such things necessary to effect the transfer and assignment to, or holding in trust for, OPA, all rights, title, and interest in all Environmental Attributes as set out in Section 5.1.
- 5.3 Action to Register. Supplier shall from time to time during the Term, upon written direction of OPA, take all such actions and do all such things necessary to certify, obtain, qualify, and register with the relevant authorities or agencies Environmental Attributes that are created and allocated or credited with respect to the Facility pursuant to Laws and Regulations from time to time (collectively, the "Regulatory Environmental Attributes") for the purposes of transferring such Regulatory Environmental Attributes to OPA in accordance with Section 5.1.
- 5.4 Cost Reimbursement. The Supplier shall be entitled to reimbursement of the cost of complying with a direction under Section 5.2 or Section 5.3, provided that OPA approves such cost in writing prior to the cost being incurred by Supplier. The Supplier shall not be required to incur any material cost associated with complying with a direction under Section 5.2 or Section 5.3 where the Supplier has sought approval from the OPA for such cost and the OPA has not approved same.

6. REPRESENTATIONS AND WARRANTIES

Supplier represents and warrants to OPA as follows and acknowledges that OPA is relying on such representations and warranties in entering into this Contract:

6.1 Connection

6.1.1 The Supplier (*check one*):

and LDC have entered into a Micro-Embedded Generation Facility Connection Agreement (the "Connection Agreement") with respect to the Facility.

and LDC are the same legal entity and no Micro-Embedded Generation Facility Connection Agreement is required with respect to the Facility.

6.1.2 No Connection Impact Assessment was required with respect to the Facility.

6.1.3 The Facility was connected on the Connection Date.

6.2 Facility Characteristics

6.2.1 The Facility meets all Project Eligibility Requirements.

6.2.2 The information specified in Section 2.1 is true and correct in all aspects.

6.3 Metering

6.3.1 The Facility's meter is exclusive to the Facility.

6.3.2 The Facility's meter is a bi-directional, two channel meter.

6.3.3 The Facility's meter is owned and operated by LDC.

6.4 Necessary Rights and Compliance

6.4.1 The Supplier has all necessary rights to construct and operate the Facility or to cause the Facility to be constructed and operated.

6.4.2 The Supplier has all necessary rights to enter into, and perform its obligations under, this Agreement.

6.4.3 The Supplier has complied with all applicable Laws and Regulations.

6.4.4 If the Facility is a solar photovoltaic facility, it has a Domestic Content Level greater than or equal to the Minimum Required Domestic Content Level.

6.4.5 Facility has obtained a Renewable Energy Approval, if applicable.

7. COVENANTS

Supplier covenants that throughout the Term:

7.1 Facility Characteristics

7.1.1 The Supplier shall make not do anything or omit to do anything that would cause the information specified in paragraphs 2.1.2, 2.1.4, 2.1.5, 2.1.6, 2.1.7 and 2.1.8 to be untrue or incorrect in any respect.

7.1.2 The Supplier shall notify the OPA promptly of any change to the information contained in paragraphs 2.1.1 and 2.1.3.

7.2 Metering

7.2.1 The Facility's meter will, at all times, be exclusive to the Facility.

7.2.2 The Facility's meter will, at all times, be owned and operated by LDC.

8. GENERAL CONDITIONS

- 8.1 Access Rights. OPA, its authorized agents, employees and inspectors shall have the right to inspect the Facility on reasonable advance notice during normal business hours and for any purposes reasonably connected with this Contract or the exercise of any and all rights secured to OPA by law.
- 8.2 Electricity. In no event shall Supplier have the right to procure electricity from sources other than the Facility for sale or delivery pursuant to this Contract or substitute such electricity.
- 8.3 Meter and Meter Data.
- 8.3.1 Supplier shall provide, and shall use reasonable efforts to cause LDC to provide, the OPA and its authorized agents, agents employees and inspectors with access to the Facility's meter for the purpose of reading, recording and downloading data, all upon not less than two days' advance notice from OPA to Supplier or LDC, as applicable.
- 8.3.2 Supplier acknowledges that it has irrevocably authorized LDC to release to OPA any information or data relating to the Facility which may be required by OPA for the purposes of administering the Contract. Supplier shall recognize and maintain OPA's rights in this regard, and shall provide similar authorizations to other agencies, settlement agents and third parties, where requested by OPA.
- 8.4 Freedom of Information. Supplier acknowledges that OPA is subject to the Ontario Freedom of Information and Protection of Privacy Act, R.S.O. 1993, c. F.31 ("FIPPA") and that any information supplied by the Supplier to or held about the Supplier by the OPA may be subject to disclosure by OPA in accordance with the requirements of FIPPA.
- 8.5 Disclosure of Information. Supplier consents to and waives all rights or claims to compensation of any kind in respect of use or disclosure by OPA or LDC to the Ministry of Energy and Infrastructure or any other Ontario government institution of information about the microFIT Supplier, the Supplier's electricity generation, pricing provisions and payments, generating capacity, electricity generation or other information about the Supplier for all program analysis, assessments, reporting, administrative, operational or planning purposes or for purposes of publicity or public awareness regarding the microFIT program or similar programs for alternative electricity generation, electricity conservation or electricity generating technology, use or operations.
- 8.6 Statement Copies. Supplier shall, at the request of OPA, provide OPA with copies of all settlement statements, invoices and all other correspondence between Supplier and LDC relating to the Facility and/or any Generation Payment and authorizes the OPA to request the same from LDC.

9. NOTICES

- 9.1 Address for Notice. All notices and communication pertaining to this Contract shall be in writing and shall be transmitted via email, or if email notification is unavailable, via facsimile, courier or hand delivery and addressed to the other party as follows:

if to OPA: **microFIT@powerauthority.on.ca**
Subject: microFIT - **FIT-MBHC BIA**

or, if email is unavailable

Ontario Power Authority

120 Adelaide Street West
Suite 1600
Toronto, Ontario
M5H 1T1

Attention: Director, Contract Management
Facsimile: 416-969-6071

If to Supplier: **brucebibby@hydroottawa.com**
Subject: microFIT – FIT-MBHCBA

or, if email is unavailable

Box 8700, 3025 Albion Road
Ottawa
Ontario
K1G 3S4

Attention: Hydro Ottawa Limited

- 9.2 Change of Contact Information. Either Party may, by written notice to the other, change its contact information for notices and communication.
- 9.3 Timing of Notice. Notice or communication delivered or transmitted as provided above shall be deemed to have been given and received on the day it is transmitted (if by e-mail or facsimile) or received (if by courier or hand delivery), provided that it is transmitted or received on a Business Day prior to 5:00 p.m. local time in the place of receipt. Otherwise such notice shall be deemed to have been given and received on the next following Business Day.

10. TERMINATION

- 10.1 On Notice. Supplier may terminate this Agreement on thirty days prior written notice to the OPA.
- 10.2 For Breach OPA may terminate this Contract if Supplier breaches any term of this Contract and fails to correct such breach within 10 Business Days of receiving notice of such breach by the OPA or if any representation or warranty made by the Supplier is untrue.
- 10.3 Automatic. This Contract will terminate automatically upon, and contemporaneously with, the termination of the Connection Agreement. The Supplier will notify the OPA immediately upon the termination of the Connection Agreement.

11. AMENDMENT

No amendment to or modification of this Contract shall be enforceable unless reduced to writing and executed by both Parties.

12. ASSIGNMENT

The Supplier may assign its rights and obligations under this Agreement with the consent of the OPA, which shall not withhold its consent unreasonably. The OPA shall have the right to assign its rights and obligations under this Contract without the consent of the Supplier.

13. GOVERNING LAW

This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and the federal laws of Canada applicable in the Province of Ontario.

Appendix A DEFINITIONS

"Agreement" means the body of the Contract and excludes any Appendices.

"Base Date" means the effective date, specified as the "Base Date", of the FIT Price Schedule used to determine the Contract Price.

"Business Day" means any day that is not a Saturday, a Sunday or a legal holiday in the Province of Ontario.

"Connection Agreement" has the meaning given to it in Section 6.1.1 of the Agreement.

"Connection Assets" has the meaning given to it in the Distribution System Code.

"Connection Impact Assessment" means an assessment conducted by the LDC to determine the impact on the distribution system of connecting the Facility to its distribution system.

"Connection Point" means the Facility's point of interconnection with the LDC distribution system.

"Contract" has the meaning given to it in Section 1 of the Agreement.

"Contract Price" has the meaning given to it in Section 4.1 of the Agreement.

"CPI" means the consumer price index for "All Items" published or established by Statistics Canada (or its successor) for any relevant calendar month in relation to the Province of Ontario.

"Directly Connected Facility" means a Facility which is connected to the LDC distribution system in an arrangement that is independent of any associated load or associated premises.

"Distribution System Code" means the "Distribution System Code" established and approved by the Ontario Energy Board as amended or replaced from time to time.

"Domestic Content Level" has meaning given to it in the microFIT Rules, version 1.3, dated December 10, 2009.

"Environmental Attributes" means the interests or rights arising out of attributes or characteristics relating to the environmental impacts associated with the Facility, now or in the future, and the right to quantify and register these with competent authorities, including: (a) all right, title, interest and benefit in and to any renewable energy certificate, credit, reduction right, offset, allocated pollution right, allowance, emission reduction allowance or allowance set aside or other proprietary or contractual right, whether or not tradable; (b) rights to any fungible or non-fungible attributes or entitlements relating to environmental impacts, however arising; (c) any and all rights, title and interest relating to the nature of an energy source as may be defined and awarded through applicable laws and regulations or voluntary programs; and (d) all revenues, entitlements, benefits, and other proceeds arising from or related to the foregoing. For greater certainty, in the event that any governmental or non-governmental agency, whether provincial, federal, national or international in scope or authority, creates or sanctions a registry, trading system, credit, offset or other program relating to Environmental Attributes or their equivalent, the term "Environmental Attributes" shall include the rights or benefits created or sanctioned under any such program or programs to the extent available as a result of, or arising from the Facility.

"Existing Generation Facility" means an electricity generating facility that is located and which is connected to the LDC distribution system.

"Facility" has the meaning given to it in Section 2.1 of the Agreement.

"FIT Price Schedule" means the schedule of prices established by the OPA from time to time, in its sole discretion, that will be used to determine the Contract Price for a FIT Contract, differentiated by Renewable Fuel, capacity and other factors as determined by the OPA.

"Generation Payment" has meaning given to it in Section 4.4 of the Contract. "Governmental Authority" means any federal, provincial, or municipal government, parliament or legislature, or any regulatory authority, agency, tribunal, commission, board or department of any such government, parliament or legislature, or any court or other law, regulation or rule-making entity, having jurisdiction in the relevant circumstances, including the Ontario Energy Board and the Electrical Safety Authority.

"GST" means the goods and services tax exigible pursuant to the *Excise Tax Act* (Canada) or any successor thereto.

"HST" means the harmonized sales tax exigible pursuant to the *Excise Tax Act* (Canada) or any successor thereto, including the "Harmonized Sales Tax" proposed in the March 26, 2009 Ontario Budget.

"Incremental Project" means any change to an Existing Generation Facility which results in an increase in the installed capacity of the Existing Generation Facility.

"Indexed Contract Price" has the meaning given to it in Section 4.3 of the Agreement.

"Indirectly Connected" means a Facility which is connected to the LDC distribution system in an arrangement which is associated with a load customer or premises.

"ITA" means the *Income Tax Act* (Canada).

"kWh" means kilowatt-hour.

"Laws and Regulations" means:

- a. applicable federal, provincial or municipal laws, orders-in-council, by-laws, codes, rules, policies, regulations and statutes;
- b. applicable orders, decisions, codes, judgments, injunctions, decrees, awards and writs of any court, tribunal, arbitrator, Governmental Authority or other person having jurisdiction;
- c. applicable rulings and conditions of any licence, permit, certificate, registration, authorization, consent and approval issued by a Governmental Authority; and
- d. the Retail Settlement Code and the Distribution System Code.

"LDC" has the meaning given to it in subsection 2.1.1 of the Agreement.

"Minimum Required Domestic Content Level" has the meaning given to it in Section 2.1 of Appendix C.

"Nameplate Capacity" means the manufacturer's total installed rated capacity of the Facility to generate electricity and, in the case of a solar photovoltaic facility, means the lesser of (i) the manufacturer's total installed rated capacity of the solar panels, and (ii) the manufacturer's specified maximum power output of the inverter.

"Percentage Escalated" means the percentage (specified in Appendix B) of the Contract Price that escalates on the basis of increases in CPI.

"Project Eligibility Requirements" means that the project must:

- i. be a Renewable Generating Facility, which uses a Renewable Fuel that is included in the FIT Price Schedule;
- ii. be located in the Province of Ontario;
- iii. not be or have been an OPA contracted facility, except in the case of Incremental Projects, where the existing Renewable Generating Facility may be or may have been an OPA contracted facility;
- iv. not have a Nameplate Capacity greater than 10 kW. If the eligible microFIT Contract is for an Incremental Project, then the sum of the Nameplate Capacity of the existing Renewable Generating Facility and the Nameplate Capacity of the Incremental Project must not be greater than 10 kW;
- v. be connected, directly or indirectly, to the IESO-controlled grid via a distribution system; and
- vi. have separate metering suitable for microFIT Program data collection and settlement purposes.

"Regulatory Environmental Attributes" has meaning given to it in Section 5.3 of the Contract.

"Renewable Energy Approval" means an approval issued by the Ontario Ministry of the Environment under Section 47.3 of the *Environmental Protection Act* (Ontario).

"Renewable Generating Facility" means an electricity-generating facility that generates electricity exclusively from a Renewable Fuel.

"Renewable Fuel" has meaning given to it in the microFIT Rules, version 1.3, dated December 10, 2009.

"Retail Settlement Code" means the "Retail Settlement Code" established and approved by the Ontario Energy Board as amended or replaced from time to time.

"Sales Tax" means GST or HST, as applicable.

"Settlement Price" means the price at which electricity sales pursuant to this agreement will be settled.

**APPENDIX C
SOLAR PHOTOVOLTAIC SCHEDULE**

1 REPRESENTATIVES AND WARRANTIES

Supplier represents and warrants to OPA as follows and acknowledges that OPA is relying on such representatives and warranties in entering into this Contract.

- 1.1 The inverter rating for the Facility is 1.56 kW (alternating current).
- 1.2 The solar array rating for the Facility is 1.56 kW (direct current).

2 DOMESTIC CONTENT REQUIREMENTS

- 2.1 The "**Minimum Required Domestic Content Level**" is 40%
- 2.2 For each of the "**Designated Activities**" set out in the first column of the Domestic Content Grid for Micro-Scale (≤ 10 kW) Solar Photovoltaic Power Projects (the "**Domestic Content Grid**"), shown below, where the Designated Activity has been performed in relation to the Facility, the Facility shall be allocated the corresponding "**Qualifying Percentage**" set out in the second column of such Domestic Content Grid.
- 2.3 If the Facility comprises more than one of the component(s) specified in the Designated Activity, the Designated Activity must have been performed in relation to all such components forming part of the Facility in order for the Designated Activity to be considered to have been performed in relation to such Facility.
- 2.4 A Designated Activity shall not be considered to be performed in relation to a Facility, where:
 - a. some but not all aspects of the Designated Activity were performed in relation to the Facility; or
 - b. the Supplier is unable to provide evidence satisfactory to the OPA, acting reasonably, that the Designated Activity was performed in relation to the Facility.
- 2.5 The "**Domestic Content Level**" in respect of a Facility shall be calculated, following the Connection Date, as the sum of the Qualifying Percentages allocated to such Facility in accordance with Section 2.1 of this Appendix C.
- 2.6 The Supplier must obtain a written confirmation from any equipment supplier or installer providing equipment or services contributing to the Domestic Content Level, confirming which components qualify as Designated Activities.
- 2.7 Within 10 Business Days of any request by the OPA, the Supplier shall provide written evidence satisfactory to the OPA, acting reasonably, confirming that the Facility has met the Minimum Required Domestic Content Level.

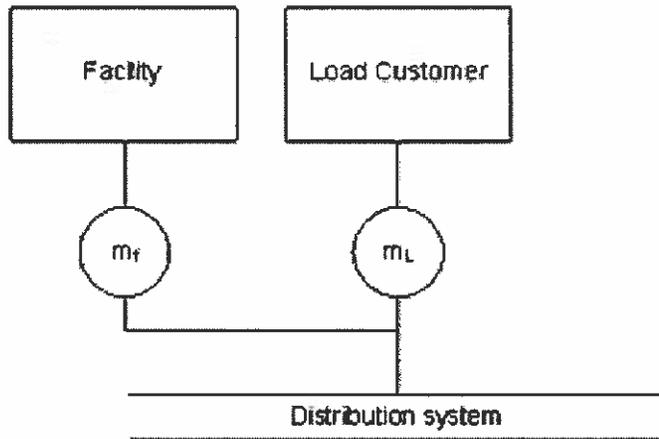
Domestic Content Grid for Micro-Scale (≤ 10 kW) Solar Photovoltaic Power Projects

Designated Activity	Qualifying Percentage
1. Silicon that has been used as input to solar photovoltaic cells manufactured in an Ontario refinery.	10%
2. Silicon ingots and wafer, where silicon ingots have been cast in Ontario, and wafers have been cut from the casting by a saw in Ontario.	12%
3. The crystalline silicon solar photovoltaic cells, where their active photovoltaic layer(s) have been formed in Ontario.	10%
4. Solar photovoltaic modules (i.e. panels), where the electrical connections between the solar cells have been made in Ontario, and the solar photovoltaic module materials have been encapsulated in Ontario.	13%
5. Inverter, where the assembly, final wiring and testing has been done in Ontario.	9%
6. Mounting systems, where the structural components of the fixed or moving mounting systems, have been entirely machined or formed or cast in Ontario. The metal for the structural components may not have been pre-machined outside Ontario other than peeling/roughing of the part for quality control purposes when it left the smelter or forge. The machining and assembly of the mounting system must entirely take place in Ontario (i.e. bending, welding, piercing, and bolting).	9%
7. Wiring and electrical hardware that is not part of other Designated Activities (i.e. items 1-6 and 8 of this table), sourced from an Ontario Supplier.	10%
8. All on-site and off-site labour and services. For greater certainty, this Designated Activity shall apply in respect of all Facilities.	27%
Total	100%

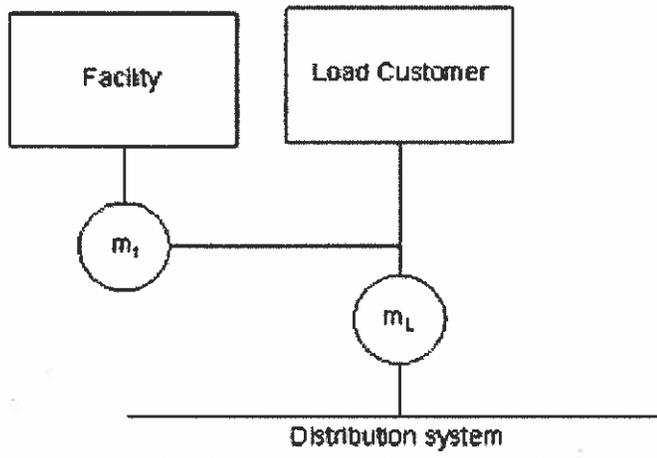
**APPENDIX D -2
INDIRECTLY CONNECTED FACILITY SCHEDULE**

1. ADDITIONAL DEFINED TERMS

"In Parallel" means the meter for the Facility is located upstream of the meter for the associated load customer or premises, as follows.



"In Series" means the meter for the Facility is located downstream of the meter for the associated load customer or premises, as follows.



2. REPRESENTATIONS AND WARRANTIES

Supplier represents and warrants to OPA as follows and acknowledges that OPA is relying on such representations and warranties in entering into this Contract:

- 2.1 The Facility is an Indirectly Connected Facility.

2.2 The Facility is (check one):

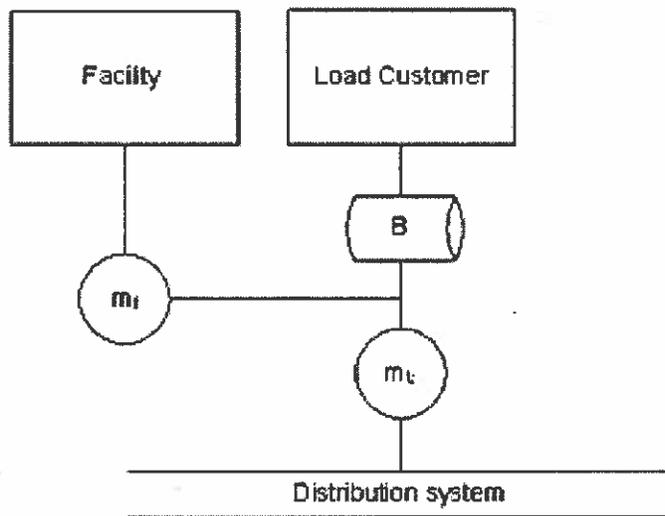
- connected In Parallel.
- connected In Series.

2.3 The Facility is (check one):

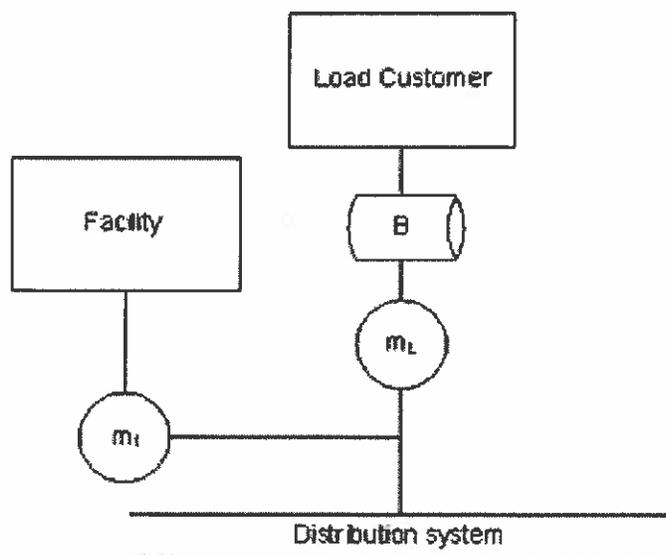
- not** connected to a battery back-up or supply system.
- connected to a battery back-up or supply system and the back-up or supply system is not located upstream of the Facility's meter.

For greater certainty, the following are acceptable battery configurations:

If In Series, as follows.



If In Parallel, as follows.



- 2.4 The legal name of the associated load customer or premises is: Hydro Ottawa Limited.
- 2.5 The LDC account number of the associated load customer or premises is: 2033833000.

3. COVENANTS

3.1 The Supplier covenants that throughout the Term:

- 3.1.1 The Supplier will make no change and take no action that would cause the information specified in Sections 2.1, 2.2 and 2.3 of this Appendix D-2 to be incorrect in any respect.
- 3.1.2 The Supplier will notify the OPA promptly of any change in the information contained in Sections 2.4 and 2.5 of this Appendix D-2.
- 3.1.3 The Supplier will ensure that it has the consent of the associated load customer, and of any person whose premises the Facility is located, to the disclosure to the OPA of its legal name, address and LDC account number and the use and disclosure of such information by the OPA (including the disclosure of such information by the OPA to LDC, the Ministry of Energy and Infrastructure or any other Ontario government institution) for all program analysis, assessments, reporting, administrative, operational or planning purposes or for purposes of publicity or public awareness regarding the microFIT program or similar programs for alternative electricity generation, electricity conservation or electricity generating technology, use or operations.

4. ADDITIONAL TERMS AND CONDITIONS

- 4.1 For the purposes of Section 4.4 of the Agreement (and subject to Section 4.2 of this Appendix D-2), electricity generated by the Facility and successfully delivered to the associated load customer or premises will be deemed to have been successfully injected into LDC's distribution system.
- 4.2 If the associated load customer or premises is disconnected from LDC's distribution system, the Facility will be deemed to have been disconnected and not capable of successfully injecting electricity into LDC's distribution system and will not be entitled to receive Generation Payments in respect of such period.

**APPENDIX F
LDC SUPPLIER SCHEDULE**

1. ADDITIONAL DEFINED TERMS

"IESO" means the Independent Electricity System Operator of Ontario established under Part II of the Electricity Act or its successor.

"IESO Market Rules" means the rules made under Section 32 of the *Electricity Act, 1998* (Ontario), together with all market manuals, policies, and guidelines issued by the IESO, as may be amended from time to time.

"Transmission System Code" means the "Transmission System Code" established and approved by the Ontario Energy Board as amended or replaced from time to time.

2. REPRESENTATIONS AND WARRANTIES

Supplier represents and warrants to OPA as follows and acknowledges that OPA is relying on such representations and warranties in entering into this Contract.

- 2.1 Supplier is a distributor as defined in the Distribution System Code.
- 2.2 Supplier is a market participant as defined in the IESO Market Rules

3. ADDITIONAL TERMS AND CONDITIONS

- 3.1 The definition of "Laws and Regulations" contained in Appendix A of the Contract is replaced for the purposes of the Contract with the following definition:
 - a. applicable federal, provincial or municipal laws, orders-in-council, by-laws, codes, rules, policies, regulations and statutes;
 - b. applicable orders, decisions, codes, judgments, injunctions, decrees, awards and writs of any court, tribunal, arbitrator, Governmental Authority or other Person having jurisdiction;
 - c. applicable rulings and conditions of any licence, permit, certificate, registration, authorization, consent and approval issued by a Governmental Authority;
 - d. any requirements under or prescribed by applicable common law;
 - e. the Retail Settlement Code, the Distribution System Code, the Transmission System Code and any other codes issued by the OEB; and
 - f. the IESO Market Rules, as well as any manuals or interpretation bulletins issued by the IESO from time to time that are binding on the Supplier.
- 3.2 Subsection 4.4.1 of the Agreement shall not apply. Supplier and OPA agree that Generation Payments shall be settled through the IESO or as otherwise agreed in writing between the Parties
- 3.3 Section 10.3 of the Agreement does not apply. Supplier shall notify the OPA immediately if the Facility is permanently disconnected. If the Facility is disconnected for more than 20 continuous Business Days it shall be deemed to

be permanently disconnected.

- 3.4 Supplier shall provide the OPA and its authorized agents, employees and inspectors with access to the Facility's meter for the purpose of reading, recording and downloading data, all upon not less than two days advance notice from OPA to Supplier.
- 3.5 Supplier will release to OPA any information or data relating to the Facility which may be required by OPA for the purposes of administering the Contract. Supplier shall, where requested by OPA, irrevocably authorize agencies, settlement agents and third parties to release to OPA any information or data relating to the Facility which may be required by OPA for the purposes of administering the Contract.
- 3.6 Section 8.4 of the Agreement does not apply. Supplier shall, at the request of OPA, provide OPA with all copies of settlement statements, invoices, records and documents relating to the Facility or any Generation Payment made in respect thereof or pursuant hereto.



**FEED-IN TARIFF MICROFIT CONTRACT
Domestic Content Estoppel Certificate Rider
Reference Number: FIT-MBHCBIA**

The Estoppel Certificate is attached to and becomes part of the microFIT Contract (Reference Number: FIT-MBHCBIA) between Ontario Power Authority ("OPA") and Hydro Ottawa Limited ("Supplier").

For the benefit of Supplier, OPA hereby acknowledges and confirms that the Facility is deemed to have a Domestic Content Level greater than or equal to the Minimum Required Domestic Content Level.

not modify the Facility to increase the Nameplate Capacity. In no event shall the Nameplate Capacity of the Facility exceed 10 kW.

2.1.7 The Facility (*check one*):

- is a Directly Connected Facility.
- is an Indirectly Connected Facility.

2.1.8 The Facility (*check one*):

- is **not** an Incremental Project.
- is an Incremental Project.

3. Term

This Contract shall commence as of March 11, 2010 and end on March 11, 2030 (the "**Term**").

4. PRICING PROVISIONS AND PAYMENT

4.1 Contract Price. The Contract Price is \$ 80.2 ¢/kWh.

4.2 Percentage Escalated. The Percentage Escalated:

- does **not** apply (e.g., in the case of solar photovoltaic facilities).
- applies.

4.3 Indexed Contract Price. The Indexed Contract Price in respect of any hour of electricity generation is:

4.3.1 where the Percentage Escalated does not apply, an amount equal to the Contract Price.

4.3.2 where the Percentage Escalated applies, an amount equal to the Indexed Contract Price determined in accordance with Appendix B.

4.4 Payment. Once both Parties have executed this Contract, Supplier shall be paid the Indexed Contract Price for the electricity generated by the Facility and successfully injected into LDC's distribution system, as described in this Section (the "Generation Payments"):

4.4.1 The Parties hereby designate LDC as the exclusive settlement agent for all Generation Payments on behalf of both the OPA and the Supplier.

4.4.2 Generation Payments shall be settled periodically and on a schedule consistent with the monthly, bimonthly, quarterly or other periodic billing cycle of LDC (the "Settlement Period") and otherwise in accordance with the provisions of the Retail Settlement Code, provided that if the Term begins on a day other than the first day of the Settlement Period, the initial payment may be deferred and incorporated with that of the first full Settlement Period following the commencement of the Term. All settlement documentation, requirements and details, including the date that any Generation Payment is due and the statement of amounts owing shall be governed by the applicable LDC.

4.4.3 If requested by OPA, Supplier shall provide OPA any additional documentation necessary in order to establish any claim for any input tax credit or rebate in respect of any Sales Tax incurred by OPA in connection with this Contract. OPA may reduce and offset any amount due to Supplier by the amount of any loss or damage suffered by OPA or amount assessed against OPA, arising out of a failure by Supplier to comply with this Section.

- 4.4.4 Supplier shall refund to OPA any amount collected as, or on account, of Sales Tax, that was collected in error by Supplier from OPA. OPA may reduce and offset any amount due to Supplier by the amount of such refund that is due to OPA.
- 4.4.5 Supplier shall notify OPA promptly of any change in its Sales Tax registration status, including becoming a Sales Tax registrant or ceasing to be a Sales Tax registrant.
- 4.4.6 If the Supplier is a non-resident of Canada, as that term is defined in the ITA, then Generation Payments shall be reduced by the amount of any applicable withholding or similar taxes. OPA may reduce or offset any amount due to Supplier by the amount of withholding taxes (and interest thereon) assessed against the OPA with respect to the Generation Payments paid to the Supplier. OPA may also reduce and offset any amount due to Supplier by the amount of any loss or damage suffered by OPA or amount assessed against OPA, arising out of any misrepresentation by Supplier as to its residency.
- 4.4.7 Supplier shall notify OPA promptly if it becomes a non-resident of Canada, as that term is defined in the ITA.
- 4.4.8 OPA may, on not less than 30 days' prior notice to Supplier, designate an alternative settlement agent or implement alternative settlement mechanics to those set out in Section 4.4.1 and 4.4.2.

5. ENVIRONMENTAL ATTRIBUTES

- 5.1 Transfer. Supplier hereby transfers and assigns to, or to the extent transfer or assignment is not permitted, holds in trust for, OPA who thereafter shall retain, all rights, title, and interest in all Environmental Attributes associated with the Facility.
- 5.2 Action to Transfer. Supplier shall from time to time during the Term, upon written direction of OPA, take all such actions and do all such things necessary to effect the transfer and assignment to, or holding in trust for, OPA, all rights, title, and interest in all Environmental Attributes as set out in Section 5.1.
- 5.3 Action to Register. Supplier shall from time to time during the Term, upon written direction of OPA, take all such actions and do all such things necessary to certify, obtain, qualify, and register with the relevant authorities or agencies Environmental Attributes that are created and allocated or credited with respect to the Facility pursuant to Laws and Regulations from time to time (collectively, the "Regulatory Environmental Attributes") for the purposes of transferring such Regulatory Environmental Attributes to OPA in accordance with Section 5.1.
- 5.4 Cost Reimbursement. The Supplier shall be entitled to reimbursement of the cost of complying with a direction under Section 5.2 or Section 5.3, provided that OPA approves such cost in writing prior to the cost being incurred by Supplier. The Supplier shall not be required to incur any material cost associated with complying with a direction under Section 5.2 or Section 5.3 where the Supplier has sought approval from the OPA for such cost and the OPA has not approved same.

6. REPRESENTATIONS AND WARRANTIES

Supplier represents and warrants to OPA as follows and acknowledges that OPA is relying on such representations and warranties in entering into this Contract:

6.1 Connection

6.1.1 The Supplier (*check one*):

and LDC have entered into a Micro-Embedded Generation Facility Connection Agreement (the "Connection Agreement") with respect to the Facility.

and LDC are the same legal entity and no Micro-Embedded Generation Facility Connection Agreement is required with respect to the Facility.

6.1.2 No Connection Impact Assessment was required with respect to the Facility.

6.1.3 The Facility was connected on the Connection Date.

6.2 Facility Characteristics

6.2.1 The Facility meets all Project Eligibility Requirements.

6.2.2 The information specified in Section 2.1 is true and correct in all aspects.

6.3 Metering

6.3.1 The Facility's meter is exclusive to the Facility.

6.3.2 The Facility's meter is a bi-directional, two channel meter.

6.3.3 The Facility's meter is owned and operated by LDC.

6.4 Necessary Rights and Compliance

6.4.1 The Supplier has all necessary rights to construct and operate the Facility or to cause the Facility to be constructed and operated.

6.4.2 The Supplier has all necessary rights to enter into, and perform its obligations under, this Agreement.

6.4.3 The Supplier has complied with all applicable Laws and Regulations.

6.4.4 If the Facility is a solar photovoltaic facility, it has a Domestic Content Level greater than or equal to the Minimum Required Domestic Content Level.

6.4.5 Facility has obtained a Renewable Energy Approval, if applicable.

7. COVENANTS

Supplier covenants that throughout the Term:

7.1 Facility Characteristics

7.1.1 The Supplier shall make not do anything or omit to do anything that would cause the information specified in paragraphs 2.1.2, 2.1.4, 2.1.5, 2.1.6, 2.1.7 and 2.1.8 to be untrue or incorrect in any respect.

7.1.2 The Supplier shall notify the OPA promptly of any change to the information contained in paragraphs 2.1.1 and 2.1.3.

7.2 Metering

7.2.1 The Facility's meter will, at all times, be exclusive to the Facility.

7.2.2 The Facility's meter will, at all times, be owned and operated by LDC.

8. GENERAL CONDITIONS

- 8.1 Access Rights. OPA, its authorized agents, employees and inspectors shall have the right to inspect the Facility on reasonable advance notice during normal business hours and for any purposes reasonably connected with this Contract or the exercise of any and all rights secured to OPA by law.
- 8.2 Electricity. In no event shall Supplier have the right to procure electricity from sources other than the Facility for sale or delivery pursuant to this Contract or substitute such electricity.
- 8.3 Meter and Meter Data.
- 8.3.1 Supplier shall provide, and shall use reasonable efforts to cause LDC to provide, the OPA and its authorized agents, agents employees and inspectors with access to the Facility's meter for the purpose of reading, recording and downloading data, all upon not less than two days' advance notice from OPA to Supplier or LDC, as applicable.
- 8.3.2 Supplier acknowledges that it has irrevocably authorized LDC to release to OPA any information or data relating to the Facility which may be required by OPA for the purposes of administering the Contract. Supplier shall recognize and maintain OPA's rights in this regard, and shall provide similar authorizations to other agencies, settlement agents and third parties, where requested by OPA.
- 8.4 Freedom of Information. Supplier acknowledges that OPA is subject to the Ontario Freedom of Information and Protection of Privacy Act, R.S.O. 1993, c. F.31 ("FIPPA") and that any information supplied by the Supplier to or held about the Supplier by the OPA may be subject to disclosure by OPA in accordance with the requirements of FIPPA.
- 8.5 Disclosure of Information. Supplier consents to and waives all rights or claims to compensation of any kind in respect of use or disclosure by OPA or LDC to the Ministry of Energy and Infrastructure or any other Ontario government institution of information about the microFIT Supplier, the Supplier's electricity generation, pricing provisions and payments, generating capacity, electricity generation or other information about the Supplier for all program analysis, assessments, reporting, administrative, operational or planning purposes or for purposes of publicity or public awareness regarding the microFIT program or similar programs for alternative electricity generation, electricity conservation or electricity generating technology, use or operations.
- 8.6 Statement Copies. Supplier shall, at the request of OPA, provide OPA with copies of all settlement statements, invoices and all other correspondence between Supplier and LDC relating to the Facility and/or any Generation Payment and authorizes the OPA to request the same from LDC.

9. NOTICES

- 9.1 Address for Notice. All notices and communication pertaining to this Contract shall be in writing and shall be transmitted via email, or if email notification is unavailable, via facsimile, courier or hand delivery and addressed to the other party as follows:

If to OPA: **microFIT@powerauthority.on.ca**
 Subject: microFIT - **FIT-M3IDEZR**

or, if email is unavailable

Ontario Power Authority

120 Adelaide Street West
Suite 1600
Toronto, Ontario
M5H 1T1

Attention: Director, Contract Management
Facsimile: 416-969-6071

If to Supplier: **brucebibby@hydroottawa.com**
Subject: microFIT - **FIT-M3IDEZR**

or, if email is unavailable

**Box 8700, 3025 Albion Road
Ottawa
Ontario
K1G 3S4**

Attention: Hydro Ottawa Limited

- 9.2 Change of Contact Information. Either Party may, by written notice to the other, change its contact information for notices and communication.
- 9.3 Timing of Notice. Notice or communication delivered or transmitted as provided above shall be deemed to have been given and received on the day it is transmitted (if by e-mail or facsimile) or received (if by courier or hand delivery), provided that it is transmitted or received on a Business Day prior to 5:00 p.m. local time in the place of receipt. Otherwise such notice shall be deemed to have been given and received on the next following Business Day.

10. TERMINATION

- 10.1 On Notice. Supplier may terminate this Agreement on thirty days prior written notice to the OPA.
- 10.2 For Breach OPA may terminate this Contract if Supplier breaches any term of this Contract and fails to correct such breach within 10 Business Days of receiving notice of such breach by the OPA or if any representation or warranty made by the Supplier is untrue.
- 10.3 Automatic. This Contract will terminate automatically upon, and contemporaneously with, the termination of the Connection Agreement. The Supplier will notify the OPA immediately upon the termination of the Connection Agreement.

11. AMENDMENT

No amendment to or modification of this Contract shall be enforceable unless reduced to writing and executed by both Parties.

12. ASSIGNMENT

The Supplier may assign its rights and obligations under this Agreement with the consent of the OPA, which shall not withhold its consent unreasonably. The OPA shall have the right to assign its rights and obligations under this Contract without the consent of the Supplier.

13. GOVERNING LAW

This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and the federal laws of Canada applicable in the Province of Ontario.

Appendix A DEFINITIONS

"Agreement" means the body of the Contract and excludes any Appendices.

"Base Date" means the effective date, specified as the "Base Date", of the FIT Price Schedule used to determine the Contract Price.

"Business Day" means any day that is not a Saturday, a Sunday or a legal holiday in the Province of Ontario.

"Connection Agreement" has the meaning given to it in Section 6.1.1 of the Agreement.

"Connection Assets" has the meaning given to it in the Distribution System Code.

"Connection Impact Assessment" means an assessment conducted by the LDC to determine the impact on the distribution system of connecting the Facility to its distribution system.

"Connection Point" means the Facility's point of interconnection with the LDC distribution system.

"Contract" has the meaning given to it in Section 1 of the Agreement.

"Contract Price" has the meaning given to it in Section 4.1 of the Agreement.

"CPI" means the consumer price index for "All Items" published or established by Statistics Canada (or its successor) for any relevant calendar month in relation to the Province of Ontario.

"Directly Connected Facility" means a Facility which is connected to the LDC distribution system in an arrangement that is independent of any associated load or associated premises.

"Distribution System Code" means the "Distribution System Code" established and approved by the Ontario Energy Board as amended or replaced from time to time.

"Domestic Content Level" has meaning given to it in the microFIT Rules, version 1.3, dated December 10, 2009.

"Environmental Attributes" means the interests or rights arising out of attributes or characteristics relating to the environmental impacts associated with the Facility, now or in the future, and the right to quantify and register these with competent authorities, including: (a) all right, title, interest and benefit in and to any renewable energy certificate, credit, reduction right, offset, allocated pollution right, allowance, emission reduction allowance or allowance set aside or other proprietary or contractual right, whether or not tradable; (b) rights to any fungible or non-fungible attributes or entitlements relating to environmental impacts, however arising; (c) any and all rights, title and interest relating to the nature of an energy source as may be defined and awarded through applicable laws and regulations or voluntary programs; and (d) all revenues, entitlements, benefits, and other proceeds arising from or related to the foregoing. For greater certainty, in the event that any governmental or non-governmental agency, whether provincial, federal, national or international in scope or authority, creates or sanctions a registry, trading system, credit, offset or other program relating to Environmental Attributes or their equivalent, the term "Environmental Attributes" shall include the rights or benefits created or sanctioned under any such program or programs to the extent available as a result of, or arising from the Facility.

"Existing Generation Facility" means an electricity generating facility that is located and which is connected to the LDC distribution system.

"Facility" has the meaning given to it in Section 2.1 of the Agreement.

"FIT Price Schedule" means the schedule of prices established by the OPA from time to time, in its sole discretion, that will be used to determine the Contract Price for a FIT Contract, differentiated by Renewable Fuel, capacity and other factors as determined by the OPA.

"Generation Payment" has meaning given to it in Section 4.4 of the Contract. "Governmental Authority" means any federal, provincial, or municipal government, parliament or legislature, or any regulatory authority, agency, tribunal, commission, board or department of any such government, parliament or legislature, or any court or other law, regulation or rule-making entity, having jurisdiction in the relevant circumstances, including the Ontario Energy Board and the Electrical Safety Authority.

"GST" means the goods and services tax exigible pursuant to the *Excise Tax Act* (Canada) or any successor thereto.

"HST" means the harmonized sales tax exigible pursuant to the *Excise Tax Act* (Canada) or any successor thereto, including the "Harmonized Sales Tax" proposed in the March 26, 2009 Ontario Budget.

"Incremental Project" means any change to an Existing Generation Facility which results in an increase in the installed capacity of the Existing Generation Facility.

"Indexed Contract Price" has the meaning given to it in Section 4.3 of the Agreement.

"Indirectly Connected" means a Facility which is connected to the LDC distribution system in an arrangement which is associated with a load customer or premises.

"ITA" means the *Income Tax Act* (Canada).

"kWh" means kilowatt-hour.

"Laws and Regulations" means:

- a. applicable federal, provincial or municipal laws, orders-in-council, by-laws, codes, rules, policies, regulations and statutes;
- b. applicable orders, decisions, codes, judgments, injunctions, decrees, awards and writs of any court, tribunal, arbitrator, Governmental Authority or other person having jurisdiction;
- c. applicable rulings and conditions of any licence, permit, certificate, registration, authorization, consent and approval issued by a Governmental Authority; and
- d. the Retail Settlement Code and the Distribution System Code.

"LDC" has the meaning given to it in subsection 2.1.1 of the Agreement.

"Minimum Required Domestic Content Level" has the meaning given to it in Section 2.1 of Appendix C.

"Nameplate Capacity" means the manufacturer's total installed rated capacity of the Facility to generate electricity and, in the case of a solar photovoltaic facility, means the lesser of (i) the manufacturer's total installed rated capacity of the solar panels, and (ii) the manufacturer's specified maximum power output of the inverter.

"Percentage Escalated" means the percentage (specified in Appendix B) of the Contract Price that escalates on the basis of increases in CPI.

"Project Eligibility Requirements" means that the project must:

- i. be a Renewable Generating Facility, which uses a Renewable Fuel that is included in the FIT Price Schedule;
- ii. be located in the Province of Ontario;
- iii. not be or have been an OPA contracted facility, except in the case of Incremental Projects, where the existing Renewable Generating Facility may be or may have been an OPA contracted facility;
- iv. not have a Nameplate Capacity greater than 10 kW. If the eligible microFIT Contract is for an Incremental Project, then the sum of the Nameplate Capacity of the existing Renewable Generating Facility and the Nameplate Capacity of the Incremental Project must not be greater than 10 kW;
- v. be connected, directly or indirectly, to the IESO-controlled grid via a distribution system; and
- vi. have separate metering suitable for microFIT Program data collection and settlement purposes.

"Regulatory Environmental Attributes" has meaning given to it in Section 5.3 of the Contract.

"Renewable Energy Approval" means an approval issued by the Ontario Ministry of the Environment under Section 47.3 of the *Environmental Protection Act* (Ontario).

"Renewable Generating Facility" means an electricity-generating facility that generates electricity exclusively from a Renewable Fuel.

"Renewable Fuel" has meaning given to it in the microFIT Rules, version 1.3, dated December 10, 2009.

"Retail Settlement Code" means the "Retail Settlement Code" established and approved by the Ontario Energy Board as amended or replaced from time to time.

"Sales Tax" means GST or HST, as applicable.

"Settlement Price" means the price at which electricity sales pursuant to this agreement will be settled.

**APPENDIX C
SOLAR PHOTOVOLTAIC SCHEDULE**

1 REPRESENTATIVES AND WARRANTIES

Supplier represents and warrants to OPA as follows and acknowledges that OPA is relying on such representatives and warranties in entering into this Contract.

- 1.1 The inverter rating for the Facility is 1.56 kW (alternating current).
- 1.2 The solar array rating for the Facility is 1.56 kW (direct current).

2 DOMESTIC CONTENT REQUIREMENTS

- 2.1 The "**Minimum Required Domestic Content Level**" is 40%
- 2.2 For each of the "**Designated Activities**" set out in the first column of the Domestic Content Grid for Micro-Scale (≤ 10 kW) Solar Photovoltaic Power Projects (the "**Domestic Content Grid**"), shown below, where the Designated Activity has been performed in relation to the Facility, the Facility shall be allocated the corresponding "**Qualifying Percentage**" set out in the second column of such Domestic Content Grid.
- 2.3 If the Facility comprises more than one of the component(s) specified in the Designated Activity, the Designated Activity must have been performed in relation to all such components forming part of the Facility in order for the Designated Activity to be considered to have been performed in relation to such Facility.
- 2.4 A Designated Activity shall not be considered to be performed in relation to a Facility, where:
 - a. some but not all aspects of the Designated Activity were performed in relation to the Facility; or
 - b. the Supplier is unable to provide evidence satisfactory to the OPA, acting reasonably, that the Designated Activity was performed in relation to the Facility.
- 2.5 The "**Domestic Content Level**" in respect of a Facility shall be calculated, following the Connection Date, as the sum of the Qualifying Percentages allocated to such Facility in accordance with Section 2.1 of this Appendix C.
- 2.6 The Supplier must obtain a written confirmation from any equipment supplier or installer providing equipment or services contributing to the Domestic Content Level, confirming which components qualify as Designated Activities.
- 2.7 Within 10 Business Days of any request by the OPA, the Supplier shall provide written evidence satisfactory to the OPA, acting reasonably, confirming that the Facility has met the Minimum Required Domestic Content Level.

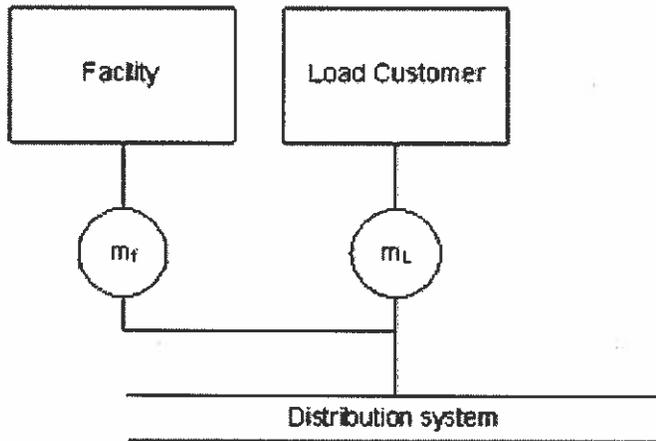
Domestic Content Grid for Micro-Scale (≤ 10 kW) Solar Photovoltaic Power Projects

Designated Activity	Qualifying Percentage
1. Silicon that has been used as input to solar photovoltaic cells manufactured in an Ontario refinery.	10%
2. Silicon ingots and wafer, where silicon ingots have been cast in Ontario, and wafers have been cut from the casting by a saw in Ontario.	12%
3. The crystalline silicon solar photovoltaic cells, where their active photovoltaic layer(s) have been formed in Ontario.	10%
4. Solar photovoltaic modules (i.e. panels), where the electrical connections between the solar cells have been made in Ontario, and the solar photovoltaic module materials have been encapsulated in Ontario.	13%
5. Inverter, where the assembly, final wiring and testing has been done in Ontario.	9%
6. Mounting systems, where the structural components of the fixed or moving mounting systems, have been entirely machined or formed or cast in Ontario. The metal for the structural components may not have been pre-machined outside Ontario other than peeling/roughing of the part for quality control purposes when it left the smelter or forge. The machining and assembly of the mounting system must entirely take place in Ontario (i.e. bending, welding, piercing, and bolting).	9%
7. Wiring and electrical hardware that is not part of other Designated Activities (i.e. items 1-6 and 8 of this table), sourced from an Ontario Supplier.	10%
8. All on-site and off-site labour and services. For greater certainty, this Designated Activity shall apply in respect of all Facilities.	27%
Total	100%

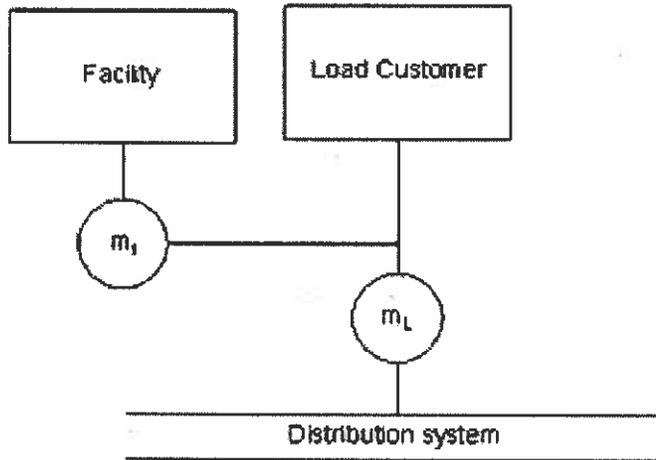
**APPENDIX D -2
INDIRECTLY CONNECTED FACILITY SCHEDULE**

1. ADDITIONAL DEFINED TERMS

"In Parallel" means the meter for the Facility is located upstream of the meter for the associated load customer or premises, as follows.



"In Series" means the meter for the Facility is located downstream of the meter for the associated load customer or premises, as follows.



2. REPRESENTATIONS AND WARRANTIES

Supplier represents and warrants to OPA as follows and acknowledges that OPA is relying on such representations and warranties in entering into this Contract:

- 2.1 The Facility is an Indirectly Connected Facility.

2.2 The Facility is (check one):

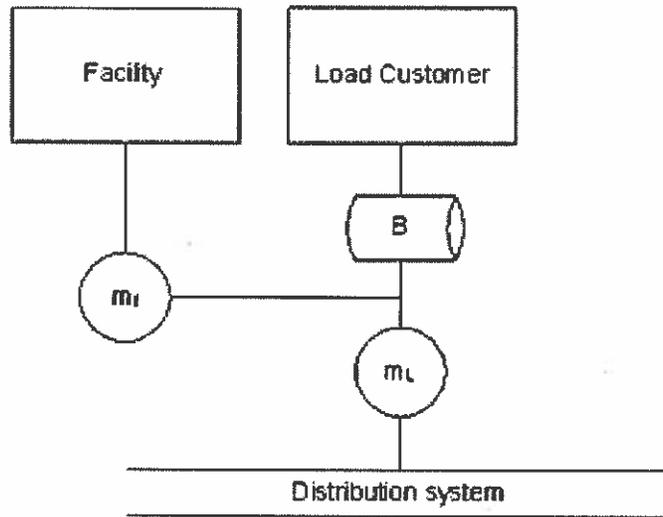
- connected In Parallel.
- connected In Series.

2.3 The Facility is (check one):

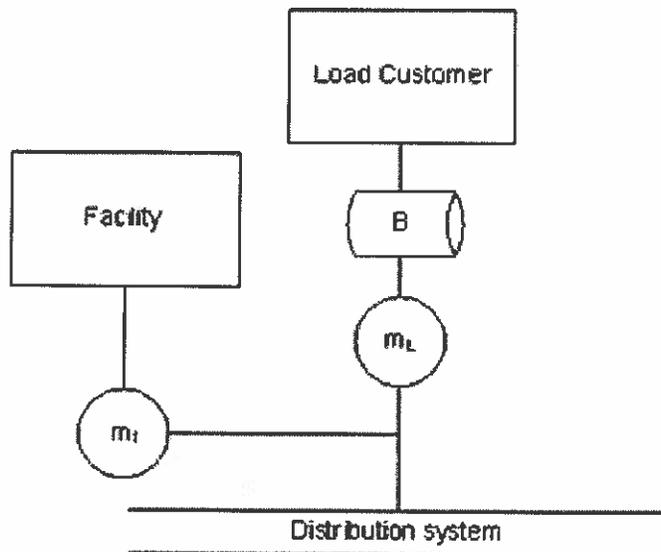
- not** connected to a battery back-up or supply system.
- connected to a battery back-up or supply system and the back-up or supply system is not located upstream of the Facility's meter.

For greater certainty, the following are acceptable battery configurations:

If In Series, as follows.



If In Parallel, as follows.



2.4 The legal name of the associated load customer or premises is: Hydro Ottawa Limited.

2.5 The LDC account number of the associated load customer or premises is: 8714343000.

3. COVENANTS

3.1 The Supplier covenants that throughout the Term:

3.1.1 The Supplier will make no change and take no action that would cause the information specified in Sections 2.1, 2.2 and 2.3 of this Appendix D-2 to be incorrect in any respect.

3.1.2 The Supplier will notify the OPA promptly of any change in the information contained in Sections 2.4 and 2.5 of this Appendix D-2.

3.1.3 The Supplier will ensure that it has the consent of the associated load customer, and of any person whose premises the Facility is located, to the disclosure to the OPA of its legal name, address and LDC account number and the use and disclosure of such information by the OPA (including the disclosure of such information by the OPA to LDC, the Ministry of Energy and Infrastructure or any other Ontario government institution) for all program analysis, assessments, reporting, administrative, operational or planning purposes or for purposes of publicity or public awareness regarding the microFIT program or similar programs for alternative electricity generation, electricity conservation or electricity generating technology, use or operations.

4. ADDITIONAL TERMS AND CONDITIONS

4.1 For the purposes of Section 4.4 of the Agreement (and subject to Section 4.2 of this Appendix D-2), electricity generated by the Facility and successfully delivered to the associated load customer or premises will be deemed to have been successfully injected into LDC's distribution system.

4.2 If the associated load customer or premises is disconnected from LDC's distribution system, the Facility will be deemed to have been disconnected and not capable of successfully injecting electricity into LDC's distribution system and will not be entitled to receive Generation Payments in respect of such period.

**APPENDIX F
LDC SUPPLIER SCHEDULE**

1. ADDITIONAL DEFINED TERMS

"IESO" means the Independent Electricity System Operator of Ontario established under Part II of the Electricity Act or its successor.

"IESO Market Rules" means the rules made under Section 32 of the *Electricity Act, 1998* (Ontario), together with all market manuals, policies, and guidelines issued by the IESO, as may be amended from time to time.

"Transmission System Code" means the "Transmission System Code" established and approved by the Ontario Energy Board as amended or replaced from time to time.

2. REPRESENTATIONS AND WARRANTIES

Supplier represents and warrants to OPA as follows and acknowledges that OPA is relying on such representations and warranties in entering into this Contract.

2.1 Supplier is a distributor as defined in the Distribution System Code.

2.2 Supplier is a market participant as defined in the IESO Market Rules

3. ADDITIONAL TERMS AND CONDITIONS

3.1 The definition of "Laws and Regulations" contained in Appendix A of the Contract is replaced for the purposes of the Contract with the following definition:

- a. applicable federal, provincial or municipal laws, orders-in-council, by-laws, codes, rules, policies, regulations and statutes;
- b. applicable orders, decisions, codes, judgments, injunctions, decrees, awards and writs of any court, tribunal, arbitrator, Governmental Authority or other Person having jurisdiction;
- c. applicable rulings and conditions of any licence, permit, certificate, registration, authorization, consent and approval issued by a Governmental Authority;
- d. any requirements under or prescribed by applicable common law;
- e. the Retail Settlement Code, the Distribution System Code, the Transmission System Code and any other codes issued by the OEB; and
- f. the IESO Market Rules, as well as any manuals or interpretation bulletins issued by the IESO from time to time that are binding on the Supplier.

3.2 Subsection 4.4.1 of the Agreement shall not apply. Supplier and OPA agree that Generation Payments shall be settled through the IESO or as otherwise agreed in writing between the Parties

3.3 Section 10.3 of the Agreement does not apply. Supplier shall notify the OPA immediately if the Facility is permanently disconnected. If the Facility is disconnected for more than 20 continuous Business Days it shall be deemed to

be permanently disconnected.

- 3.4 Supplier shall provide the OPA and its authorized agents, employees and inspectors with access to the Facility's meter for the purpose of reading, recording and downloading data, all upon not less than two days advance notice from OPA to Supplier.
- 3.5 Supplier will release to OPA any information or data relating to the Facility which may be required by OPA for the purposes of administering the Contract. Supplier shall, where requested by OPA, irrevocably authorize agencies, settlement agents and third parties to release to OPA any information or data relating to the Facility which may be required by OPA for the purposes of administering the Contract.
- 3.6 Section 8.4 of the Agreement does not apply. Supplier shall, at the request of OPA, provide OPA with all copies of settlement statements, invoices, records and documents relating to the Facility or any Generation Payment made in respect thereof or pursuant hereto.



Ontario Power Authority

FEED-IN TARIFF MICROFIT CONTRACT
Domestic Content Estoppel Certificate Rider
Reference Number: FIT-M3IDEZR

The Estoppel Certificate is attached to and becomes part of the microFIT Contract (Reference Number: FIT-M3IDEZR) between Ontario Power Authority ("OPA") and Hydro Ottawa Limited ("Supplier").

For the benefit of Supplier, OPA hereby acknowledges and confirms that the Facility is deemed to have a Domestic Content Level greater than or equal to the Minimum Required Domestic Content Level.



1 **Interrogatory**

2

3 **QUESTION #13**

4

5 [Ex. B1/2/5] With respect to the Facilities Strategy:

6

7 a. P. 1 and p. 17. Please provide the full business cases for the East Operations
8 Centre and the Administrative building, including all supporting documents and
9 spreadsheets, and all presentations to senior management or the Board of Directors
10 supporting those business cases. Please provide the detailed financial analyses
11 underlying the Analysis of Alternatives beginning at page 17, including related
12 presentations and spreadsheets.

13

14 b. P. 4. Please confirm that the NBV of the Albion Road property of \$10 million is
15 based on the original cost, and that the property has not, since acquisition, been
16 revalued for accounting, tax or regulatory purposes. If that is not the case, please
17 provide the NBV based on original cost (including actual capital enhancements
18 subsequent to purchase) and accumulated depreciation to date. Please provide the
19 basis for the market value cited, including any documents on which that is based in
20 whole or in part. Please provide any valuations of the property done at any time
21 since 1999.

22

23 c. P. 6. Please confirm that the NBV of the Merivale Road property of \$14.5 million is
24 based on the original cost, and that the property has not, since acquisition, been
25 revalued for accounting, tax or regulatory purposes. If that is not the case, please
26 provide the NBV based on original cost (including actual capital enhancements
27 subsequent to purchase) and accumulated depreciation to date. Please provide the
28 basis for the market value cited, including any documents on which that is based in
29 whole or in part. Please provide any valuations of the property done at any time
30 since 1999.

31



- 1 d. P. 7. Please confirm that the NBV of the Bank Street property of \$7.2 million is
2 based on the original cost, and that the property has not, since acquisition, been
3 revalued for accounting, tax or regulatory purposes. If that is not the case, please
4 provide the NBV based on original cost (including actual capital enhancements
5 subsequent to purchase) and accumulated depreciation to date. Please provide the
6 basis for the market value cited, including any documents on which that is based in
7 whole or in part. Please provide any valuations of the property done at any time
8 since 1999.
9
- 10 e. P. 8. Please explain why there is no NBV or market value listed for 100 Maple
11 Grove. Please provide that data, including all supporting documents.
12
- 13 f. P. 8. Please confirm that the NBV of the 90 Maple Grove property of \$1.8 million is
14 based on the original cost, and that the property has not, since acquisition, been
15 revalued for accounting, tax or regulatory purposes. If that is not the case, please
16 provide the NBV based on original cost (including actual capital enhancements
17 subsequent to purchase) and accumulated depreciation to date. Please provide the
18 basis for the market value cited, including any documents on which that is based in
19 whole or in part. Please provide any valuations of the property done at any time
20 since 1999.
21
- 22 g. P. 18. Please provide the full calculations underlying Table 7, including all
23 supporting material and sources of assumptions. Please confirm that the result of
24 these calculations means that rates should be lower under Option 4 than under
25 Option 1.
26
- 27 h. P. 19. Please provide all reports and other documents from Colliers International
28 related to the cost of the administrative building.
29
- 30 i. P. 20. Please confirm that the finished cost of the building, excluding land, furniture,
31 and moving costs, is expected to be \$315 per square foot, in total \$37.8 million.



1 Please explain why this is so much higher than the \$216 per square foot cost
2 forecast by Powerstream for their 92,000 square foot head office building in EB-
3 2008-0244. Please provide a detailed comparison of the costs for the proposed new
4 building to the costs of the Powerstream head office building, with explanations for
5 any material differences.

6

7 j. P. 22. Please provide details of the RFP, the responses, and the result.

8

9 **Response**

10

11 a. Hydro Ottawa Limited (“Hydro Ottawa”) did a presentation to its Board based on the
12 preliminary analysis conducted by internal staff in May 2010 (Attachment 1). Please
13 refer to g below for supporting documentation underlying the analysis of alternatives.
14 Hydro Ottawa has requested a Business Case confirming the initial staff analysis as
15 a deliverable by the Project Manager.

16

17 b. The NBV of the Albion Road Property is based on the original cost. The property
18 has been revalued for tax purposes but not for accounting or regulatory purposes.
19 The basis of the market value cited is an independent appraisal by Altus Group
20 Limited (“Atlas”). Refer to Attachment 2 for the letter supporting the market value.
21 The details of the appraisal report have been excluded from this response as this
22 property will be disposed of as part of this Facilities Strategy and access to the report
23 would weaken Hydro Ottawa’s bargaining position and ability to get the best possible
24 price on disposal. Hydro Ottawa also believes that the content of the appraisal report
25 other than the letter provided is not necessary for the purposes of these proceedings.
26 There was a valuation performed on the property in 2001 for tax revaluation
27 purposes, however, for the same reasons as noted above the valuation report has
28 not been provided within the response. The value of the property in 2001 was
29 \$10.4M; the recent valuation performed provided a range of \$10.7M to \$12.2M.

30 c. The NBV of the Merivale Road Property is based on the original cost. The property
31 has been revalued for tax purposes but not for accounting or regulatory purposes.



1 The basis of the market value cited is an independent appraisal by Altus. Refer to
2 Attachment 3 for the letter supporting the market value. Note that the draft appraisal
3 provided indicated a market value of \$6.3M to \$6.8M as indicated in Exhibit B1-5-2,
4 Table 2, however the final appraisal received indicated a market value ranging from
5 \$6.75M to \$7.25M. The details of the appraisal report have been excluded from this
6 response as this property will be disposed of as part of this Facilities Strategy and
7 access to the report would weaken Hydro Ottawa's bargaining position and ability to
8 get the best possible price on disposal. Hydro Ottawa also believes that the content
9 of the appraisal report other than the letter provided is not necessary for the
10 purposes of these proceedings. There was a valuation performed on the property in
11 2001 for tax revaluation purposes, however, for the same reasons as noted above
12 the valuation report has not been provided within the response. The value of the
13 property in 2001 was \$3.6M; the recent valuation performed provided a range of
14 \$6.75M to \$7.25M. The increased valuation reflects the numerous renovations and
15 additions to this property between 2001 and 2010 as described in the Background
16 section of Exhibit B1-5-2.

17 d. The NBV of the Bank Street Property is based on the original cost. The property has
18 been revalued for tax purposes but not for accounting or regulatory purposes. The
19 basis of the market value cited is an independent appraisal by Altus. Refer to
20 Attachment 4 for the letter supporting the market value. The details of the appraisal
21 report have been excluded from this response as this property will be disposed of as
22 part of this Facilities Strategy and access to the report would weaken Hydro Ottawa's
23 bargaining position and ability to get the best possible price on disposal. Hydro
24 Ottawa also believes that the content of the appraisal report other than the letter
25 provided is not necessary for the purposes of these proceedings. There was a
26 valuation performed on the property in 2001 for tax revaluation purposes, however,
27 for the same reasons as noted above the valuation report has not been provided
28 within the response. The value of the property in 2001 was \$2.6M; the recent
29 valuation performed provided a range of \$4.3M to \$4.8M. The increased valuation
30 reflects the renovations and additions to this property between 2001 and 2010 as
31 described in the Background section of Exhibit B1-5-2.



- 1 e. An appraisal was not performed on 100 Maple Grove as this is the West Operations
2 Center, which was built in 2005, and for all options considered, this property would
3 be retained therefore there was no need for a market appraisal report.
4
- 5 f. The NBV of the 90 Maple Grove Property is based on the original cost. The property
6 has been revalued for tax purposes but not for accounting or regulatory purposes.
7 The basis of the market value cited is an independent appraisal by Altus. Refer to
8 Attachment 5 for the letter supporting the market value. The details of the appraisal
9 report have been excluded from this response as this property will be disposed of as
10 part of this Facilities Strategy and access to the report would weaken Hydro Ottawa's
11 bargaining position and ability to get the best possible price on disposal. Hydro
12 Ottawa also believes that the content of the appraisal report other than the letter
13 provided is not necessary for the purposes of these proceedings. There was a
14 valuation performed on the property in 2001 for tax revaluation purposes, however,
15 for the same reasons as noted above the valuation report has not been provided
16 within the response. The value of the property in 2001 was \$3.7M; the recent
17 valuation performed provided a market value of \$1.8M. Note that the valuation in
18 2001 was for the entire property; however, the property has been recently split into
19 two properties – 90 Maple Grove and 100 Maple Grove. The recent valuation of
20 \$1.8M is only for the now surplus property and does not reflect 100 Maple Grove as
21 this is the West Operations Center, which is being retained.
- 22 g. Please see the response to VECC #25. Yes, the results of these calculations do
23 mean that all else being equal the rates should be lower under Option 4 than under
24 Option 1.
25
- 26 h. The preliminary estimation of the cost of the administrative buildings was derived by
27 internal resources and some of the elements were validated through verbal
28 discussions with Colliers International. This preliminary estimation will be refined
29 and validated as part of the Project Management Firm's Phase 1 activities. No
30 reports or documents were received from Colliers International in this regard.
31



- 1 i. The preliminary estimation of the cost of the administrative building excluding land,
2 furniture and moving costs is approximately \$345 per square foot for a total of \$41
3 million, however as noted in h above, this is a preliminary estimation that will be
4 refined and validated as part of the Project Management Firm's Phase 1 activities.
5 Hydro Ottawa has no additional information about the PowerStream building costs
6 than that, which is readily available in EB-2008-0244. Based upon the information in
7 that filing Hydro Ottawa calculated \$265 per square foot for the PowerStream
8 building; however, Hydro Ottawa cannot determine whether this includes the interior
9 fit-up costs or just the base building. Similarly, many other comparators are also
10 unclear such as whether the parking structure costs are included. The Project
11 Management firm will be reviewing Hydro Ottawa's internal estimates as well as
12 comparing to appropriate benchmarks as part of Phase 1.
- 13 j. Details of the RFP as posted on Merx are included as Attachment 6 and 7. Hydro
14 Ottawa received six compliant bids; however, the contract has not yet been awarded.

REAL ESTATE STRATEGY

Hydro Ottawa Limited
Board of Directors
May 13, 2010



Content

- **Background**
- **Current Properties**
- **Optimal Facilities**
- **Options and Pros / Cons**
- **Financial Analysis**
- **Benefits**
- **Project Timeline**
- **Recommendation**
- **Appendices**
 - Appendix 1 – 3 - Capital Spend for Albion, Merivale and Bank
 - Appendix 4 - Property tax
 - Appendix 5 - Operational Efficiencies
 - Appendix 6 - Energy efficient buildings
 - Appendix 7 - Additional Benefits
 - Appendix 8 – 9 Service Area Maps



Background

- **Current property set-up was inherited through November 2000 amalgamation**
- **Decisions after amalgamation:**
 - Bank street declared redundant and offered for sale
 - Merivale renovated, new system office and 10-Bay Garage built
 - Carling substation – 3-Bay Garage built
- **Subsequently, Colliers' Strategic Real Estate Plans recommended:**
 - Dispose Maple Grove property
 - Establish New West Ops
 - Dispose Albion property
 - Establish New East Ops
 - Establish New HQ facility
 - Retain Merivale due to the recent extensive renovations
 - Bank not analyzed in this plan since already declared redundant
 - Retain Ops Centre at Carling substation



3

Background (continued)

- In August 2006, the Board of Directors of Hydro Ottawa Limited (HOL) approved (in principle) the sale of the Albion Road facility and the consolidation of the Hydro Ottawa enterprises administrative offices in a new facility, subject to the approval of the Hydro Ottawa Holding Inc. (HOHI) Board of Directors
- However, the HOHI Board of Directors requested that this decision be deferred for at least 12 months
- Therefore most of the recommendations in the Colliers' plans were not implemented for various reasons, exception being:
 - Maple Grove property retained and new West Ops Centre constructed on the property



4

Background (continued)

- **However, numerous tactical decisions to work-around issues were taken:**
 - Merivale garage, office renovations and System Office were done prior to the Real Estate Plans being commissioned
 - 3-Bay Garage added to Carling substation and sale of adjacent parking lot
 - Bank was declared redundant and put on the market for sale – however, due to the lack of buyer interest, the Fleet and Training Centre were relocated to Bank
- **In 2009, Real Estate was identified as a business plan objective for the following reasons:**
 - Productivity
 - Customer Satisfaction
 - Financial
 - Necessity



5

Background (continued)

- Hydro Ottawa Employee Engagement Survey also identified dissatisfaction in physical work environment for certain inside workers at Albion and Merivale
- A renewed focus on our real estate strategy with a longer term view is required to enhance decision making from an operational and financial perspective
- The HOHI Board has now endorsed proceeding with next initial steps based on Option 4 in this presentation: “Construct New Facilities at Optimal Locations”
- A Request for Proposal was posted on MERX on April 22, 2010 for project management resources with a closing date of May 12, 2010
- Management will report back with the detailed facility plan once finalized



6

Current Properties

- **Albion**
 - Former Ottawa Hydro facility
 - Administrative Office Building, East Ops Centre, Crane and Transformer Shop (Multi-use facility which is 55 years old, houses 328 employees)
 - The office portion is beyond capacity, no room for further consolidation or growth
 - East Ops Centre too far from major artery (Hwy 417) resulting in slower response times to downtown and Orleans
 - The location is inappropriate for an office building
 - The Ops Centre is now embedded within a growing residential area, no industrial use on adjacent sites (results in public safety concerns)
 - The Albion garage is too low for the modern line trucks
 - Many of the components (HVAC, washrooms, elevators, windows, roof, etc) are at the end of their life cycle
 - If decision is to maintain Status Quo, projected capital spend for this property in the next 5 years is \$9.9M (Appendix 1)

7



Current Properties (continued)

- **Merivale**
 - Former Nepean Hydro facility
 - Administrative Office Building, South Ops Centre and Warehouse (Multi-use facility which is 40 years old, houses 213 employees)
 - Major renovations and 10-Bay Garage added in 2003
 - The office portion is beyond capacity
 - South Ops Centre is beyond capacity with no room to expand on existing property – would need to acquire additional land
 - South Ops Centre too far from major artery (Hwy 416) resulting in slower response times
 - Many of the components (HVAC, washrooms, windows, roof, etc) are at the end of their life cycle
 - If decision is to maintain Status Quo, projected capital spend for this property in the next 5 years is \$8.2M (Appendix 2)

8



Current Properties (continued)

- **Bank**
 - Approximately 25% of the Former Gloucester office currently used for apprentice training and general management training, houses 22 employees
 - Also currently houses Fleet Centre (Vehicle Maintenance)
 - Fleet Centre is poorly situated for Fleet Maintenance (too far from South and West Ops)
 - 75% of the Office building is vacant
 - If decision is to maintain Status Quo, projected capital spend for this property in the next 5 years is \$4.9M (Appendix 3)
- **Maple Grove**
 - Former Kanata Hydro facility
 - New West Ops Centre was completed in 2005 on property, houses 36 employees
 - Former Kanata Hydro office building and garage leased to Atria, severance application currently with City
 - West Ops Centre is the benchmark for future Ops Centres



9

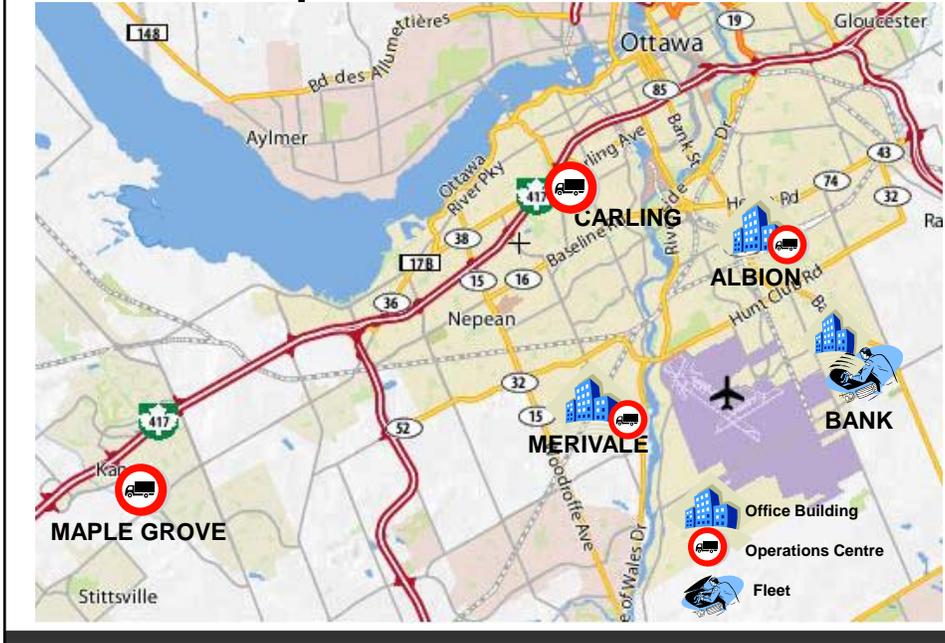
Current Properties (continued)

- **Carling Substation**
 - Central Ops Centre built in 2002 (co-located with substation), houses 22 employees
 - Central Ops Centre is beyond capacity with no room to expand on existing property and no opportunity to acquire additional land
 - Central Ops is already decentralized with some staff working out of Albion
- Major concerns are the extensive decentralization of the administrative and technical staff (currently in 4 locations around the city) and constrained growth opportunities for Ops and Administrative personnel and equipment
- Following map show locales of current properties and the Ops Centres



10

Current Properties - Locations



Optimal Facilities

Head Office

- Consolidates all administrative and technical staff; System Office; Management Training facilities
- Located in a commercial/institutional area that provides low cost / best value option
- Accessible to public transportation
- Provides public visibility
- Energy efficient
- Adopts standard space allocations established by Source FM (8x8 for staff, 8x10 for Supervisors; office standard 150 sq ft for Managers, 225 sq ft for Directors)
- Approx 120,000 sq ft.

Optimal Facilities (continued)

Ops Centres

- Decentralized into 4 service territories – East, South, West and Central
- Locate on major arterials for quick access to all reaches of respective service territory
- Limited to areas zoned Industrial due to the need for outside storage
- West (Maple Grove) Ops Centre concept of variable-bay garage with attached line staff facility is the model

Fleet (Repair) Centre

- Centrally located to all 4 Ops Centres if independent facility (Limited to areas zoned Industrial)
- Co-located with South Ops Centre (if Bank St. is sold) is equally acceptable (trade-off of long drive for East Ops vehicles vs. no drive for South Ops)
- Consider decentralizing - have a bay in each Ops Centre instead of one location



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Optimal Facilities (continued)

Warehouse / Meter Shop

- Locate in low cost industrial area – SW quadrant of Russell/St. Laurent / Walkley area or north at Industrial / Star Top
- Deliveries to Ops Centres occur overnight by 3rd party carriers – no need to have line staff drive to warehouse
- Requires loading dock, material handling equipment, and interior/exterior storage space



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Real Estate Strategy Options

1. Retain all Existing Facilities (except Atria) – Status Quo
2. Construct new consolidated Admin facility at Albion Road
3. Construct new consolidated Admin facility at Merivale Road
4. Construct New Facilities at Optimal Locations

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Option 1 – Retain all Existing Facilities (except Atria) – Status Quo

- Retain all existing facilities (except Atria)
- Address some of the issues around capacity and parking by:
 - Relocating staff to Bank St. and basement warehouse space at Albion Rd., and
 - Expand Merivale garage and parking area
- Live with the other issues identified on the previous slides
- Prepare to build new in year 21

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Pros and Cons

Option 1 – Retain all Existing Facilities (except Atria) – Status Quo

<u>Pros</u>	<u>Cons</u>
Reduced financial commitment now	Ineffective / marginal use of capital spend
Addresses some of the current overcrowding / capacity issues	Requires additional land acquisition in a sub-optimal location (Merivale)
	Less than optimal locations (lost operational efficiencies)
	Decentralized staff (lost productivity)
	Less than optimal working conditions
	Renovations disruptive
	Lack of energy conservation leadership
	Public safety issues would remain un-addressed

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Option 2 – Construct new consolidated Admin facility at Albion Road

- Demolish existing building - rebuild larger office building
- Re-locate East Ops Centre to new site to better serve east end (includes Fleet Centre)
- Atria – surplus, Bank - surplus after construction complete
- 80% of the Merivale office would be vacated - potential to lease this portion (Limited likelihood)
- Expand Merivale garage and parking to accommodate South end Ops Centre
- Requires temporary relocation of Meter Shop
- Requires temporary relocation of approx 220 admin staff (Will need to lease space, Bank St can accommodate maximum of 120 staff)
- Establish a temporary back-up System Office at Bank St

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Pros and Cons

Option 2 – Construct new consolidated Admin facility at Albion Road

Pros	Cons
East Ops would be optimally located	HQ, although renewed, would still be in a sub-optimal location
Provides new facility, consolidation of staff and addresses current and future needs	South Ops Centre would still be in a sub-optimal location
Increases energy efficiency and reduces some operating costs	Requires additional land acquisition in a sub-optimal location (Merivale)
Enhanced working conditions for admin staff	Requires finding a suitable tenant at Merivale location (co-exist with South Ops)
	Cost and disruption to temporarily relocate Albion staff
	Merivale location not in line with energy conservation leadership role
	No visibility

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Option 3 – Construct new consolidated Admin facility at Merivale Road

- Demolish existing building - rebuild larger office building
- Re-locate South Ops Centre to new site (includes Fleet Centre), otherwise significant land purchase required
- Re-locate Warehouse and yard to new site
- Atria – surplus, Bank - surplus after construction complete
- 90% of the Albion office would be vacated - potential to lease this portion (Limited likelihood)
- Requires prime System Office to be activated at Albion, with temporary back-up System Office set-up at Bank St
- Requires temporary relocation of approx 200 admin staff (Will need to lease space, Bank St can accommodate maximum of 120 staff)

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Pros and Cons

Option 3 – Construct new consolidated Admin facility at Merivale Road	
Pros	Cons
South Ops would be optimally located	HQ, although renewed, would still be in a sub-optimal location
Provides new facility, consolidation of staff and addresses current and future needs	East Ops Centre would still be in a sub-optimal location
Increases energy efficiency and reduces some operating costs	Requires finding a suitable tenant at Albion location (co-exist with East Ops)
Enhanced working conditions for admin staff	Cost and disruption to temporarily relocate Merivale staff
	Albion location not in line with energy conservation leadership role
	Public safety issues would remain un-addressed at Albion
	No visibility

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Option 4 – Construct New Facilities at Optimal Locations

- Dispose of Albion, Merivale, Bank, and Atria
- Build new consolidated Admin Facility (would include Training and System Office) at optimal commercial location
- Build new East and South Op Centres in close proximity to major transportation corridors to enhance productivity and customer service
- Build new Warehouse in low cost industrial area (would include Meter Shop)
- Fleet would be located with new South Ops, Crane and Transformer Shop would be located with new East Ops, Back-up System Office would be located in either South or East Ops

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Pros and Cons

Option 4 – Construct New Facilities at Optimal Locations

Pros	Cons
Optimized locations for Ops Centres – improved efficiencies, improved response times and customer satisfaction	Significant financial commitment in near term
Centralized inside office staff – improved productivity	
No disruption to operations during construction	
Provides new facility, consolidation of staff and addresses current and future needs	
All existing properties would be sold	
Improved employee engagement and retention, increased hiring potential	
Energy conservation promoted through energy efficient buildings	
Safety concerns addressed	

The following map indicates the approximate positions of the new locations



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Future State - Locations



Summary of Options

- **Options 2 & 3 costs exceed the other options without significant added benefits:**
 - Expenditures on new HQ building would exceed costs to build new elsewhere due to costs of demolition, and of relocating staff to temporary facilities during construction phase
 - Costs to establish a temporary back-up system office
 - Limited likelihood of finding a suitable tenant for the vacated portions of the Merivale or Albion office
 - Sub-optimal location issues unaddressed

- **Options 1 and 4 have been chosen for further financial analysis as the two most viable options**

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Financial Analysis - Introduction

- **The following slides provide an overview of the estimated financial impact of Option 1 “Retain all Existing Facilities (except Atria) – Status Quo” vs. Option 4 “Construct New Facilities at Optimal Locations”:**
 - FMV of Albion Rd, Bank St, Merivale Rd and Atria properties
 - NBV and resulting Gain or Loss on the above properties
 - Cost to Construct New Facilities
 - Cost to Retain Existing Facilities
 - Summary of annual savings
 - 40 yr NPV analysis
 - Regulatory considerations

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Fair Market Value of Existing Buildings

Location	Capital Date	Acres	Building Sq. Footage	Fair Market Value	Liquidity	Reasonable Marketing Period
Albion	1955	14	202,000	\$11.6M	Modest	12 – 18 mths
Bank	1975	9	35,000	\$3.9M	Modest	6 – 9 mths
Merivale	1971	7	54,350	\$6.5M	Modest	4 – 8 mths
Kanata (Atria)	1985	3	18,070	\$1.8M	Good	3 – 6 mths
Totals				\$23.8M		

- Fair Market Value would be impacted by closing costs, easements, and environmental assessments
- Liquidity = likelihood of getting FMV in a reasonable marketing exposure time which is specific for each property, i.e. size, value, uniqueness, etc
- Modest = Market Value may be difficult to achieve, selective and few buyers
- Good = Likely to achieve market value, restricted availability of similar assets
- The Fair Market Value information from Altus (Jan 2010) was expressed in ranges (\$22.6M to \$24.9M)



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Net Book Value of Existing Buildings

Location	Cost	Accum Deprec	NBV	FMV (from previous slide)	Projected Gain (Loss)
2009					
Albion	\$16.1M	(\$5.9M)	\$10.2M	\$11.6M	\$1.4M
Bank	\$9.1M	(\$2.1M)	\$7M	\$3.9M	(\$3.1M)
Merivale	\$16.9M	(\$3M)	\$13.9M	\$6.5M	(\$7.4M)
Kanata (Atria)	\$2.8M	(\$1M)	\$1.8M	\$1.8M	\$Nil
Totals	\$44.9M	(\$12M)	\$32.9M	\$23.8M	(\$9.1M)

Over \$30M has been spent on our properties since Amalgamation, average depreciation rate of 2% / yr results in high NBV's.



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Cost to Construct New Facilities at Optimal Locations

	Building Cost	Land Cost	Totals
HQ (Admin, Training, Control Centre)	\$47M	\$2.5M	\$49.5M
East Ops, Crane and Transformer Shop	\$7.5M	\$1.5M	\$9M
South Ops and Fleet Maintenance	\$8M	\$1.5M	\$9.5M
Warehouse / Meter Shop	\$2M	\$2.5M	\$4.5M
Total	<u>\$64.5M</u>	<u>\$8M</u>	<u>\$72.5M</u>
Less – FMV of Existing Properties			<u>(23.8M)</u>
Net Cost			<u>\$48.7M</u>

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Costs to Retain all Existing Facilities (except Atria) – Status Quo

If we maintain Status Quo, the projected capital spending for the following properties for the next 5 years is as follows:

	5 yr Capital Spend
Albion	\$9.9M
Bank	\$4.9M
Merivale	\$8.2M
Total	<u>\$23M</u>

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Summary of Annual Savings

	Status Quo	Construct New Facilities	Savings
20 yr Horizon	\$ 000		
Avg Annual Projected Capital	\$1,070 ⁽¹⁾	\$450	\$620
Avg Annual Projected Operating	\$2,720	\$2,113	\$607
Avg Annual Projected Property Tax ⁽²⁾	\$720	\$1,451	(\$731)
Avg Annual Operational Efficiency ⁽³⁾		\$1,910	\$1,910
Total			\$2,406

(1) Does not include one-time capital upgrades as noted on previous slide and [Appendix 1 - 3](#)

(2) Refer to [Appendix 4](#) for further details on the projected property tax

(3) Refer to [Appendix 5](#) for the operational efficiency calculations

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40 yr NPV Analysis

	Forecast Costs	NPV (Note 1)
	\$ 000	
Retain all Existing Facilities (except Atria) – Status Quo	\$304,600	\$125,061
Construct New Facilities at Optimal Locations	\$228,848	\$113,522
Savings	\$77,753	\$11,539

Note 1 – NPV analysis performed over a 40 yr period (building life cycle), using annual inflation rate of 2% and a discount rate of approx 5%

Conclusion: Financial advantage to construct New Facilities now

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Regulatory Considerations

Inclusion of Facilities in Rate Base/Revenue Requirement

- Will require inclusion in the next rate application
- Impact to 2011 rate base not significant and therefore rate impact minimal. In future years, the cost of capital of the additional assets would need to be financed through rates, partially offset by operational efficiencies in the longer term
- OEB will determine if facilities strategy results in “just and reasonable” rates by determining if the costs are prudent, considering operational benefits, rate impacts to customers and energy conservation and demand management

Sharing of Gains/Losses on Sale of Property

- OEB has had different rulings on the sharing of gains therefore outcome is not clear
- The 2006 Rate Handbook implied a 50/50 sharing of gains was typical
- In 2008, Toronto Hydro ordered to provide 100% of gains on sale of facilities to customers because existing properties were “used and useful” and being replaced “at a substantial cost to the ratepayer”
- No recent ruling on the sharing of losses

Experience of Others

- In 2009, PowerStream got OEB approval (through settlement) to include new office building in rate base – had previously been leasing space from municipality in addition to having operational centers

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Benefits to Constructing New Facilities at Optimal Locations

- **Solve problems associated with:**
 - End of life buildings
 - Poorly situated buildings
 - Capacity issues both operationally and administratively
 - Decentralized staff
 - Public safety concerns
- **Customer satisfaction**
- **Reduce annual operating and capital costs by \$2.4M**
- **Improve employee morale, reduce sick time, increase recruitment success**
- **Hydro Ottawa leadership re energy conservation**

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Project Timeline

	2011	2012	2013	2014
HQ:				
Land	X			
Building		X	X	X
South Ops:				
Land		X		
Building		X	X	
East Ops:				
Land	X			
Building	X	X		
Warehouse:				
Land			X	
Building				X

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Resolution

Adopted by HOHI Board on March 26, 2010

Proceed with implementing Option 4:

**“Construct New Facilities at
Optimal Locations”**

Note: 2011 Rate application now includes \$5.5M for (\$4M for land acquisition and \$1.5M for partial construction of East Ops)

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REAL ESTATE STRATEGY

APPENDICES
May 13, 2010



Appendix 1 – Albion Capital Spend

Estimated capital projections in next 5 years if decision is to maintain “Status Quo”	\$ 000
General capital	\$1,660
Roof	\$1,010
Security	\$80
Asphalt	\$600
Elevator	\$200
Electrical	\$275
Space expansion	\$1,575
Refurbishment	\$3,000
Energy efficient (windows, lighting)	\$1,500
	<u>\$9,900</u>



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Appendix 2 – Merivale Capital Spend

Estimated capital projections in next 5 years if decision is to maintain "Status Quo"	\$ 000
General capital	\$1,040
Security	\$45
Mechanical Chiller	\$75
Garage expansion	\$5,000
Refurbishment	\$1,000
Energy efficient (windows, lighting)	\$1,000
	<u>\$8,160</u>

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Appendix 3 – Bank Capital Spend

Estimated capital projections in next 5 years if decision is to maintain "Status Quo"	\$ 000
General capital	\$805
Security	\$25
Sewer / Septic	\$1,000
Fit-up for Office space	\$2,585
Energy efficient (windows, lighting)	\$500
	<u>\$4,915</u>

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Appendix 4 - Property Tax

- There will be an increase in Property Taxes with New Facilities at Optimal Locations
- Albion is currently classified as a Class C office building, a new building would be classified as Class A
- The rate per square foot of Class A office buildings range from \$7.25 to \$7.75 – approx \$900k for a 120,000 square foot office building, Albion currently pays around \$265k
- The annual average increase in property tax from the Status Quo to New Facilities is approximately \$731k



Appendix 5 - Estimated Operational Efficiencies from complete rationalization

	Albion line trucks	Merivale line trucks	Other vehicles	Total
Time savings (assume 1 trip per day)	15 min each way	15 min each way	7 ½ min each way	
Labour Rate (\$/Hr)	\$64	\$64	\$64	
Truck Rate (\$/Hr)	\$30	\$30	\$7	
# of vehicles (assume 1 trip per day)	38	26	120	
Number of days	250	250	250	
Labour / Truck cost savings (\$ 000)	\$599	\$410	\$533	\$1,542
Fuel Savings (\$ 000)	\$7	\$5	\$21	\$33
Annual Savings (\$ 000)	\$606	\$415	\$554	\$1,575
Avg Annual Savings (Over 20 Yr period)				\$1,910

Assumptions:

1.5 persons / truck for the line trucks and 1 person/vehicle for the other vehicles and 1 trip per day



Appendix 6 - Energy Efficient Buildings

- The financial projections take into account constructing energy efficient buildings to LEED standards:
- The increase in cost is approx 5% or \$1.4M
- The resulting savings in operating cost is approximately 35% on utilities, which has also been factored into the savings
- The remaining slides in this Appendix provide other examples of Energy Efficient Buildings
- Appendix 7 provides information relating to additional benefits regarding employee satisfaction from investing in Energy Efficient Buildings

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Appendix 6 - Energy Efficient Buildings

PowerStream HQ example

- Received Gold LEED status in 2008
- Energy savings of approximately 35%
- High-efficiency plumbing fixtures reduce potable water use by 20-30%
- A wind turbine generator and solar panels offset approx 3% of the building's electricity needs
- 25 indoor parking spaces have been designated for staff who carpool
- 95% of workstations have direct view of the outdoors
- Glass windows are filled with argon gas and a titanium reflective coating
- Occupancy sensors for lighting
- Drainage pond adjacent to the building issued for landscape watering
- Increase in employee morale and brand awareness



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Appendix 7 – Additional Benefits

Absenteeism

- Case studies have recently found that improvements to indoor environments could reduce health care costs and absenteeism
 - A large East Coast company with 3,720 employees found their absenteeism rate was 35% lower in offices with higher ventilation rates
 - A Bank headquarters has had worker absenteeism fall by 15% since moving into a new green building; combined energy and absenteeism savings equal \$3.4 million per year

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Appendix 7 – Additional Benefits

Absenteeism (cont'd)

- A study of 11,000 workers found absenteeism due to sick building syndrome is likely to be 34% lower when workers have control over their own thermal conditions
- An additional study concluded that in one instance 25 to 30% of total absences could be attributed to building related health complaints while in another instance about half of all employees occasionally stayed home because of similar complaints; this averaged to 3.6 days of absence per employee per year

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Appendix 7 – Additional Benefits

Productivity

- The following case studies indicate a direct correlation between sustainable design and productivity increase
 - Reno Post Office – lighting and HVAC renovation increased productivity by 6%
 - Pennsylvania Power & Light – lighting upgrade improved productivity by 13%
 - West Bend Mutual Insurance – moving into new green headquarters produced an increase in productivity of approximately 16%; worth more than \$2 million at the time

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Appendix 7 – Additional Benefits

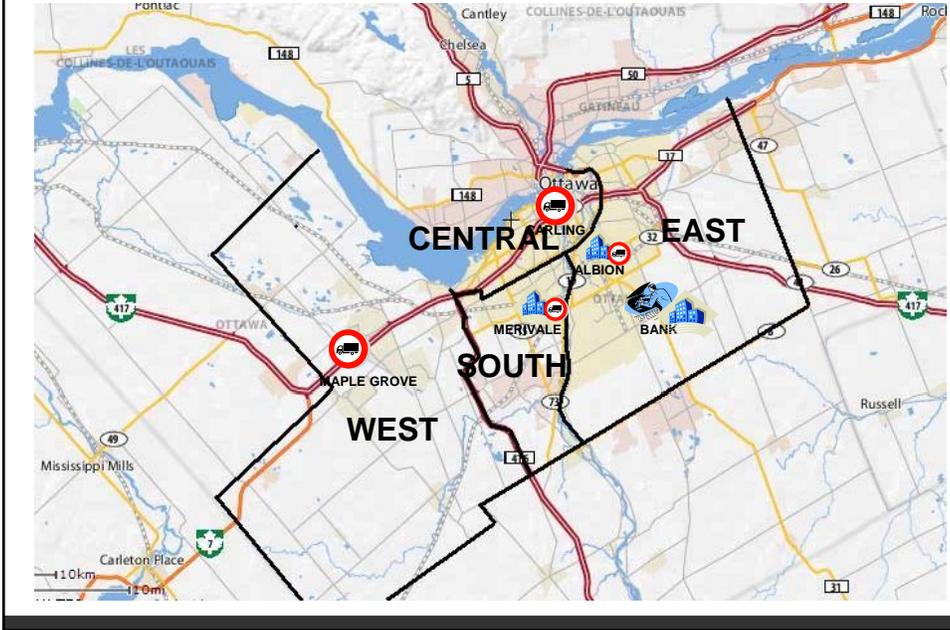
Recruitment and Retention

- Positive image associated with sustainable building can reduce turnover and improve employee commitment to employer
- Reputation as a desirable employer can also create an advantage for attracting, recruiting and retaining talent thereby reducing labour replacement, and orientation and training costs
- A sustainable building conveys key messages about an employer – one that is technologically advanced, innovative, and cares for the environment; particularly more powerful when primary mission of the employer is related to energy efficiency

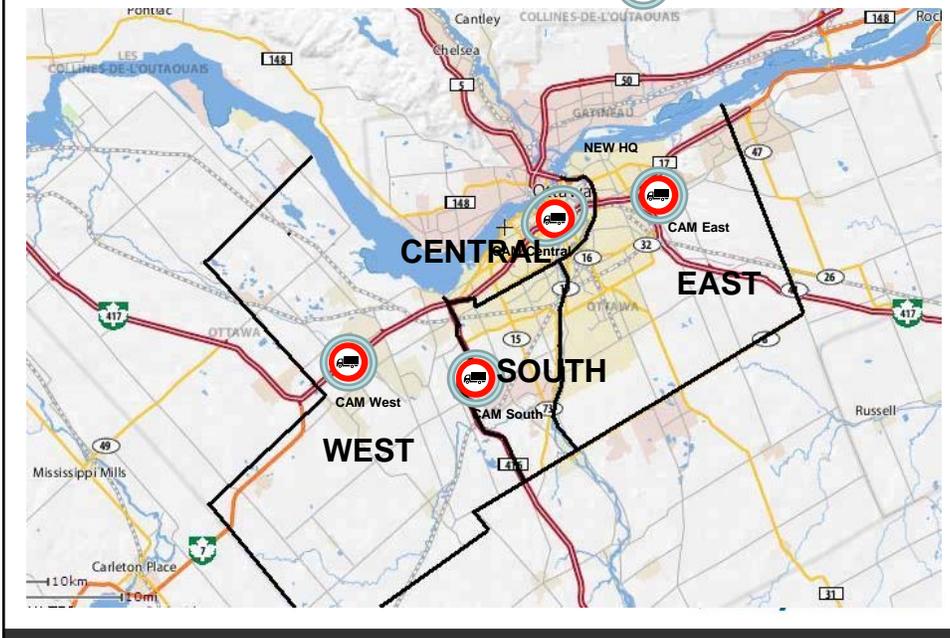
50



Appendix 8 – Service Area with Current Properties



Appendix 9 – Service Area with Future State



January 28, 2010

Project No.: 912557-499/SG

Mr. Joey St. Jacques
Facilities Supervisor
Hydro Ottawa
3025 Albion Road North
Ottawa, ON K1G 3S4

RE: 3025 Albion Road,
Ottawa, Ontario

Dear Sir:

Further to your request, we have inspected the above-noted property and have completed our investigations and analyses in order to provide our opinion of the current market value on an all-cash basis, of the fee simple interest in the property. It is our understanding that you will use this appraisal report to assist in the disposition of the property.

To avoid ambiguity, the following pages (with the appendices) must be read in their entirety, since they detail the valuation methods and supporting data on which our conclusion of value is based.

Property	Market Value Range Estimate	
A: Main Building	\$8,000,000	to \$9,000,000
B: Surplus Land	\$2,650,000	to \$3,180,000
Total	\$10,650,000	to \$12,180,000

Based on this estimate of market value liquidity for Property A is considered "modest" and Property B is "good". Should you have any questions, please contact the undersigned at your convenience.

Respectfully submitted,

Altus Group Limited



Stephen Granleese, MPL, AACI, MRICS

January 28, 2010

Project No.: 912561-501/JW

Mr. Joey St. Jacques
Facilities Supervisor
Hydro Ottawa
3025 Albion Road North
Ottawa, ON K1G 3S4

RE: 1970 Merivale Road & 22 Slack Road
Ottawa, Ontario

Mr. St. Jacques:

Further to your request, we have inspected the above-noted property and have completed our investigations and analyses in order to provide our opinion of the current market value on an all-cash basis, of the fee simple interest in the property. It is our understanding that you will use this appraisal report to assist in the disposition of the property.

To avoid ambiguity, the following pages (with the appendices) must be read in their entirety, since they detail the valuation methods and supporting data on which our conclusion of value is based.

Subject to the Extraordinary Assumptions listed on page 5 of the report and the Contingent and Limiting Conditions in Appendix "A", it is our opinion that the market value of the subject property, as of the effective date, January 6, 2010, is:

\$6,750,000 - \$7,250,000

Based on this estimate of market value liquidity is considered "modest". Should you have any questions, please contact the undersigned at your convenience.

Respectfully submitted,

Altus Group Limited

A handwritten signature in black ink, appearing to read "Julianne Wright".

Julianne Wright, B.Arch, MBA, AACI

January 28, 2010

Project No.: 912559-500/JW

Mr. Joey St. Jacques
Facilities Supervisor
Hydro Ottawa
3025 Albion Road North
Ottawa, ON K1G 3S4

**RE: 4565 - 4601 Bank Street,
Ottawa, Ontario**

Mr. St. Jacques:

Further to your request, we have inspected the above-noted property and have completed our investigations and analyses in order to provide our opinion of the current market value on an all-cash basis, of the fee simple interest in the property. It is our understanding that you will use this appraisal report to assist in the disposition of the property.

To avoid ambiguity, the following pages (with the appendices) must be read in their entirety, since they detail the valuation methods and supporting data on which our conclusion of value is based.

Subject to the Extraordinary Assumptions listed on page 7 of the report and the Contingent and Limiting Conditions in Appendix "A", it is our opinion that the market value of the subject property, as of the effective date, January 11, 2010, is:

\$4,250,000 to \$4,750,000

Based on this estimate of market value liquidity is considered "modest". Should you have any questions, please contact the undersigned at your convenience.

Respectfully submitted,

Altus Group Limited



Julianne Wright, B.Arch, MBA, AACI

January 28, 2010

Project No.: 912563-502/JW

Mr. Joey St. Jacques
Property and Settlement Officer
Hydro Ottawa
3025 Albion Road North
Ottawa, ON K1G 3S4

RE: 90 Maple Grove Road (Formerly part of 100 Maple Grove Road)
Ottawa, Ontario

Mr. St. Jacques:

Further to your request, we have inspected the above-noted property and have completed our investigations and analyses in order to provide our opinion of the current market value on an all-cash basis, of the fee simple interest in the property. It is our understanding that you will use this appraisal report to assist in the disposition of the property.

To avoid ambiguity, the following pages (with the appendices) must be read in their entirety, since they detail the valuation methods and supporting data on which our conclusion of value is based.

Subject to the Extraordinary Assumptions listed on page 5 of the report and the Contingent and Limiting Conditions in Appendix "A", it is our opinion that the market value of the subject property, as of the effective date, January 7, 2010, is:

\$1,750,000 - \$1,800,000

Based on this estimate of market value liquidity is considered "good". Should you have any questions, please contact the undersigned at your convenience.

Respectfully submitted,

Altus Group Limited

A handwritten signature in black ink, appearing to read "Julianne Wright".

Julianne Wright, B.Arch, MBA, AACI

RFP 017-10 Project Management Services

Header

Reference Number	PR195338
Solicitation Number	RFP 017-10
Buying Organization	Hydro Ottawa Limited
Source ID	PP.CO.ON.596805.C64329
Associated Components	Yes
Non-disclosure Agreement	Not required.

Dates

Published	2010-04-22
Revised	
Closing	2010-05-12 02:00 PM Eastern Daylight Saving Time EDT

Details

Opportunity Access	Open
Category	Professional, Administrative and Management Support Services
GSINS	R123AH: PROJECT MANAGEMENT SERVICES
Region of Delivery	Ontario
Agreement Type	
Tender Type	Request for Proposal (RFP)
Estimated Value	\$1,000,001 - \$5,000,000
E-bid Submission	Not Available
Site Visit / Pre-bid Meeting	Not Applicable

Notice Description

RFP 017-10 Project Management Services

Hydro Ottawa Limited (Hydro Ottawa) is undertaking a rationalization of its real estate assets with a view to consolidate its holdings and optimize the location of its central office and operation centers. Hydro Ottawa requires the services of a project manager to lead Hydro Ottawa through this process. There are two phases delineated in the RFP; namely, Program Management (design) and Project Management (execution).

Contact(s)

Preview Associated Components

Item	Description	Language	No. of Pages	Format	No. of Files	File Size	Additional Information
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Ottawa, Ontario K1G 3S4
Tel: (613) 738-5499
Fax: (613) 738-6420
www.hydroottawa.com

Hydro Ottawa limitée
3025, chemin Albion Nord, C.P. 8700
Ottawa (Ontario) K1G 3S4
Tel. : (613) 738-5499
Telec : (613) 738-6420
www.hydroottawa.com



Date: April 21, 2010
RFP: 017-10
Closing Date: May 12, 2010
14:00 Local Time

Attention: Bidders

Proposals are requested on the following:

RFP 017-10 - Project Management Services

This Package Includes:

- RFP 017-10 General Terms
- RFP 017-10 Schedule A - Statement of Work
- RFP 017-10 Schedule B - Cost Summary Sheet
- RFP 017-10 Schedule C - Proposal Signature Form
- RFP 017-10 Schedule D - Proposal Format and Evaluation

All applicable taxes extra. F.O.B. Hydro Ottawa, 3025 Albion Rd. North, Ottawa, ON K1V 9V9, Supplied, Terms Net 30 days.

Five (5) signed copies and one (1) electronic are due on the date and time indicated (May 12, 2010 at 2:00 PM local time). All copies of the proposal shall be submitted in one sealed package, clearly marked on the outside "**Sealed Offer for RFP 017-10 – CONFIDENTIAL**" to:

BID RECEIVING UNIT

Hydro Ottawa Ltd.
Mailing Address: P.O. Box 8700, Ottawa, Ontario K1G 3S4
Courier Address: 3025 Albion Road North, Ottawa, Ontario K1V 9V9

Note: Bidders should include the RFP number on any courier documentation.

Hydro Ottawa does not bind itself to accept the lowest or any Bid. Bids will not be considered if received later than the stated time. Any Bid may be accepted or rejected in whole or in part.

Yours truly,

A handwritten signature in blue ink that reads "David Elliott".

David Elliott
Senior Procurement Agent
Tel. 613-738-5499 Ext 554
Fax 613-738-6420



REQUEST FOR PROPOSALS

RFP 017 - 10

PROJECT MANAGEMENT SERVICES

Issued: April 21, 2010

Proposal Submission Deadline:

Date: May 12, 2010

Time: 2:00 PM Local Time

SECURITY WARNING

The information contained herein is confidential and proprietary to Hydro Ottawa Limited and may not be used, reproduced, distributed or disclosed to others in any manner whatsoever except as specifically and expressly permitted in writing by Hydro Ottawa Limited. The recipient of this document, by its retention and use, agrees to protect the same and the information contained herein from loss or theft.

REQUEST FOR PROPOSALS

PART 1 INSTRUCTIONS AND CONDITIONS

1. Overview

Hydro Ottawa Limited (Hydro Ottawa) is undertaking a rationalization of its real estate assets with a view to consolidate its holdings and optimize the location of its central office and operation centers. Hydro Ottawa requires the services of a project manager to lead Hydro Ottawa through this process. There are two phases delineated in the RFP; namely, Program Management (design) and Project Management (execution).

2. Proposals Sought

Hydro Ottawa requests proposals from Bidders interested in providing project management services in accordance with the specifications described in Schedule A – Statement of Work of this Request for Proposals (RFP).

3. Confidentiality

- (1) All documentation and information, including this RFP, obtained by the Bidder, the Bidder's business partners, Representatives, and other third parties associated with the Bidder in respect of this RFP, are the property of Hydro Ottawa and must be treated as confidential and must not be used for any purpose other than for responding to this RFP and for fulfilling any subsequent contract with Hydro Ottawa. Upon the request of Hydro Ottawa, all such documentation and information, and copies thereof, must be returned to Hydro Ottawa.
- (2) Bidders shall not disclose, without Hydro Ottawa's prior written approval, any details pertaining to their proposal, this RFP and/or the selection process in whole or in part to any business partners, Representatives, or other third parties associated with the Bidder in respect of this RFP except to such of them to whom disclosure is necessary in connection with this RFP and who have agreed to be bound by the obligations of confidentiality under this RFP. Bidders shall not issue a news release or other public announcement pertaining to details of their proposal, this RFP and/or the selection process without Hydro Ottawa's prior written approval.
- (3) Each Bidder must ensure that the Bidder, the Bidder's business partners, Representatives, and other third parties associated with the Bidder in respect of this RFP do not disclose or publicize at any time any of the information provided to it by Hydro Ottawa or its representatives, or any of

the information obtained in connection with this RFP without the prior written consent of Hydro Ottawa.

- (4) Any violation of this provision will result in the rejection of the Bidder's proposal and disqualification from further participation in this RFP process.

4. Definitions

"Bidder" means the entity or person that submits a proposal in response to this RFP and may consist of several parties submitting one proposal as a joint venture, which may be either a contractual joint venture or an equity joint venture. "Bidder" does not include subcontractors.

"Business Days" means the hours from 7:00 a.m. to 5:00 p.m., Eastern Time, on the weekdays from Monday to Friday inclusive with the exception of statutory holidays observed by Hydro Ottawa.

"Hydro Ottawa", "HOL", and "HO" mean Hydro Ottawa Limited.

"Project" means the activities involved in the execution of the tasks identified in Schedule A - Statement of Work for replacement of Hydro Ottawa's existing head office, operation centres, and warehouse facilities with new facilities.

"Representatives" in reference to party, means the party's directors, officers, employees, agents and Contractors, the party's Affiliates, and all such Affiliates' respective directors, officers, employees, agents and contractors.

"Request for Proposals" ("RFP") includes Parts 1 and 2 of this document and all attached Schedules.

"Services" means the requested services as stipulated in Schedule A – Statement of Work.

5. Examination of Documents and Site

The Bidder shall be held to have ascertained the extent of its obligations by calculation and by examination of the documents concerning this RFP. The Bidder shall not, under any pretence whatsoever, make any claim because of errors or omissions that may exist in the documents and drawings associated with this RFP.

6. Preparing the Proposal

- (1) Proposal should be in the format set out in Schedule D - Proposal Format and Evaluation.

- (2) The Bidder shall complete Schedule B – Cost Summary Sheet. The proposal prices shall include everything necessary for the completion of the Services as described in the Statement of Work. The Price Sheet should include the following:
 - Fees quoted should be broken-down by level of staff, their hours and their hourly or per diem rate.
 - The Bidder's expense and travel policy
- (3) **The Bidder must comply with all mandatory requirements. Any proposal, which fails to meet the mandatory requirements, will be deemed non-compliant with this RFP and will not be given further consideration.**
- (4) The interpretation of the Schedule B – Cost Summary Sheet rests solely with Hydro Ottawa. If any description appears ambiguous, the Bidder shall clarify such descriptions with Hydro Ottawa before preparing the proposal.

7. Submission of Proposals

- (1) It is the Bidder's responsibility to:
 - (a) return a signed original of the proposal, duly completed, IN THE FORMAT REQUESTED;
 - (b) direct its proposal ONLY to the person identified in Section 9;
 - (c) ensure that the Bidder's full legal name and solicitation closing date and time are clearly visible;
 - (d) provide a comprehensive and sufficiently detailed proposal, including all requested pricing details that will permit a complete evaluation in accordance with the criteria set out in the solicitation.
- (2) Timely and correct delivery of proposals to the specified delivery address is the sole responsibility of the Bidder. Hydro Ottawa will not assume or have transferred to it those responsibilities. All risks and consequences of incorrect delivery of proposals are the responsibility of the Bidder.
- (3) The Bidder must sign the proposal. Where the proposal is submitted by a joint venture or partnership, all members of the joint venture or partnership, or their duly authorized Representatives, shall sign the proposal.
- (4) The lowest bid will not necessarily be accepted. An Agreement may be issued up to ninety (90) days after the closing date of the RFP. The Bidder must demonstrate its understanding of, and its ability to meet, the requirements set out in Schedule A – Statement of Work.

- (5) The proposal should completely and thoroughly address each element of the requirement as enumerated in this RFP. It is also essential that the elements contained in the proposal be stated in a clear and concise manner. Hydro Ottawa will screen out all non-responsive and incomplete proposals in order to concentrate its effort on acceptable proposals. “Non-responsive” proposals are proposals that do not meet the specified minimum capability within a functional area, and “incomplete” proposals refer to proposals that do not include documents in the format described in this RFP.
- (6) Proposals received on or before the stipulated closing date and time will become the property of Hydro Ottawa and will not be returned. All proposals will be treated as CONFIDENTIAL.

8. Clarification and Addenda

- (1) Bidders shall examine all RFP documents and shall judge all matters relating to the adequacy and accuracy of such documents. Any inquiries, suggestions or requests concerning clarification, interpretation or additional information shall be made to the Agreement Authority. **Clarifications requested by Bidders must be received no later than 2:00 p.m. on the third (3rd) Business Day before the closing date set out in Section 10.**
- (2) Hydro Ottawa shall not be responsible for oral interpretations given by any Hydro Ottawa employee, Representative or others. The issuance of a written addendum is the only official method whereby interpretation, clarification or additional information may be given. All addenda will become part of the Agreement documents. If any addenda are issued to this RFP, Hydro Ottawa will attempt to notify all prospective bidders, however, it shall be the responsibility of each Bidder, prior to submitting their respective proposal, to contact the Contract Authority to determine if addenda were issued and to make such addenda a part of the proposal.

9. Contract Authority

All enquiries and questions regarding this RFP and the completion of a proposal must be directed to the following Contract Authority before a proposal is submitted:

David Elliott
3025 Albion Road, North,
P.O. Box 8700,
Ottawa, Ontario
K1G 3S4
Telephone: (613) 738-5499 ext. 554
Facsimilie: (613) 738-6420
Email: davidelliott@hydroottawa.com

All questions for clarification must be submitted to the Contract Authority in writing. Questions will be answered to the best of Hydro Ottawa's ability and as quickly as possible. However, Hydro Ottawa is not obligated to respond to any questions. Questions and their answers will be provided to all Bidders.

10. Closing Date

Five (5) signed copies and one (1) electronic copy of the proposal shall be submitted in one sealed package, clearly marked on the outside "**Sealed Offer for RFP 017-10 CONFIDENTIAL**" to:

BID RECEIVING UNIT
3025 Albion Road, North,
P.O. Box 8700,
Ottawa, Ontario
K1G 3S4

Proposals **MUST** be received at the above location **NO LATER THAN 2:00 p.m.** Eastern **Monday, May 12, 2010.**

11. Delivery Requirements

Any and all proposals received after the above stated time and date will not be considered. It shall be the sole responsibility of the Bidder to have its proposal delivered on or before the above stated time and date. If a proposal is sent by mail, the Bidder shall be responsible for its timely delivery. Proposals not meeting the deadline for acceptance shall not be opened.

12. Responses Transmitted by Electronic Mail (“E-Mail”)

- (1) Proposals may be transmitted by e-mail.
- (2) The only acceptable e-mail address for proposals is davidelliott@hydroottawa.com.
- (3) If the Bidder chooses to submit a proposal by e-mail, Hydro Ottawa will not be responsible for any failure attributable to the transmission or receipt of the e-mail proposal including, but not limited to the following:
 - (a) receipt of garbled or incomplete proposal;
 - (b) delay in transmission or receipt of the proposal;
 - (c) failure of the Bidder to properly identify the proposal;
 - (d) illegibility of the proposal; or
 - (e) security of bid data.
- (4) Proposals submitted by e-mail will constitute the Bidder’s formal offer and must contain all information required by this RFP
- (5) For responses transmitted by e-mail, five (5) signed copies are required within two (2) Business days after bid closing.

13. Late Proposals

It is Hydro Ottawa’s policy to return, unopened, proposals delivered after the stipulated RFP closing date and time, unless they qualify as a delayed proposal as described below.

14. Delayed Proposals

- (1) A proposal delivered after the closing date and time, but before the issue of an Agreement, may be considered provided the delay can be proven to have been due solely to a delay in delivery that can be attributed to the Canada Post Corporation (CPC) (or national equivalent of a foreign country). The only pieces of evidence relating to a delay in the CPC system that are acceptable are:
 - (a) a CPC cancellation date stamp;
 - (b) a CPC Priority Courier Bill of Lading; and
 - (c) a CPC Xpresspost Label,

that clearly indicates that the proposal was mailed prior to the RFP closing date.

- (2) Misrouting, traffic volume, weather disturbances, or any other causes for the late delivery of proposals are not acceptable reasons for the proposal to be accepted by Hydro Ottawa.

15. Postage Meters

Postage meter imprints, whether imprinted by the Bidder, the CPC or the postal authority outside Canada, are not acceptable as proof of timely mailing.

16. Legal Name

Proposals shall clearly indicate the legal name, address and telephone number of the Bidder. Bidders shall complete Schedule C- Proposal Signature Form. Proposals shall be signed above the typed or printed name and title of the signatory. The signatory shall have the authority to bind the Bidder to the submitted proposal.

17. Identity or Legal Capacity of Bidder

In order to establish the legal capacity under which a Bidder proposes to enter into an Agreement, any Bidder who carries on business in other than its own personal name shall, if requested by the Contract Authority, provide proof of the legal capacity under which it carries on business to the Contract Authority prior to the issuance of an Agreement. Such proof may be in the form of a copy of the articles of incorporation or of the registration of the business name of a sole proprietor, of a trade name, of a partnership, etc.

18. Proposal Expenses

All expenses for making proposals to Hydro Ottawa are to be borne by the Bidder.

19. Revision of Proposals

Changes to proposals after their submission to Hydro Ottawa are prohibited, and shall be at Hydro Ottawa's discretion. However, at any time prior to the Closing Date, and with Hydro Ottawa's consent, a Bidder may amend a proposal that it has already submitted. A Bidder wishing to amend its proposal may be required by Hydro Ottawa to submit an amended proposal in the same manner, and within the same deadlines, set out in this RFP. If so required by Hydro Ottawa, the Bidder must withdraw its original proposal in writing. This Section applies whether the amendment is initiated by a Bidder or is in response to subsequent information provided by Hydro Ottawa.

20. Irrevocable Offer

- (1) The Bidder may withdraw its proposal, with Hydro Ottawa's consent, at any time before the Closing Date in accordance with this Section. A request by a Bidder to withdraw its proposal (a "Request for Withdrawal") must be in writing on the Bidder's letterhead and delivered in person or by e-mail to the Contract Authority. Hydro Ottawa's consent to a Request for Withdrawal shall be at Hydro Ottawa's discretion, and may be unreasonably withheld. Hydro Ottawa will not consider a Request for Withdrawal submitted by telephone.
- (2) If Hydro Ottawa receives more than one proposal from the same Bidder in respect of this RFP, but receives no Request for Withdrawal, the proposal contained in the envelope bearing the earliest date and time stamp shall be considered the operative proposal.
- (3) Any proposal not withdrawn shall, upon opening, constitute an irrevocable offer for a period of ninety (90) days to sell Hydro Ottawa the services set forth in the RFP.

21. Evaluation Criteria

- (1) A Bidder shall meet all the mandatory requirements stated in the RFP. The mandatory requirements are indicated by the words "mandatory", "shall", "must" or "will". **No response will be considered or evaluated unless all mandatory requirements are met.**
- (2) Hydro Ottawa will evaluate the responses to this RFP in accordance with Schedule D - Proposal Format and Evaluation and evaluation will be based on criteria including, but not limited to, fee structure, satisfaction of technical requirements, qualifications, expertise and availability of key team members, ability to meet commencement and completion dates, absence of business and legal conflicts, preliminary project charter, work breakdown structure, and ability to meet other requirements listed in this RFP.
- (3) A duly signed and completed RFP, including all Schedules, is **mandatory**.
- (4) The following requirements are **mandatory** and shall be submitted with the Bidder's proposal:
 - (a) Provision of Bidder's Project Manager and include the Project Manager's name, title, mailing address, telephone number, facsimile number and e-mail address.

- (b) Provision of a summary description of the Bidder including ownership, size, registered office, number of employees and a description of affiliates.
- (c) Firm credentials, experience, and exposure to similar assignments including a list of clients for whom services similar to those set out in Schedule A – Statement of Work have been provided in the last two years and including a description of scope (nature of work) of the services provided.
- (d) Details of the Bidder's team including, but not limited to, resume of each team member, an organizational chart indicating the primary contact person, team lead, dedicated support staff and subject matter specialists.

22. Reserved Rights

- (1) For the purpose of evaluating the proposals, Hydro Ottawa reserves the right, but is not obligated to do any or all of the following:
 - (a) to seek clarification of or confirm any information or data provided by the Bidder;
 - (b) to contact any reference provided by the Bidder; and
 - (c) to interview the Bidder and/or any person proposed by the Bidder to perform the services.
- (2) Hydro Ottawa reserves the right to accept or reject any and/or all proposals; to waive irregularities and technicalities; to request resubmission; and to cancel and/or re-issue this RFP. Any sole response received may or may not be rejected by Hydro Ottawa depending on available competition and requirements of Hydro Ottawa. There is no obligation on the part of Hydro Ottawa to award a contract to the lowest Bidder and Hydro Ottawa reserves the right to award a contract in a negotiated contract, which is most advantageous, and in the best interests of Hydro Ottawa. Hydro Ottawa shall be the sole judge of the proposal and the resulting negotiated Agreement that is in its best interest and Hydro Ottawa's decision shall be final. Hydro Ottawa also reserves the right to investigate, as deemed necessary, the ability of any Bidder to perform the Services. The Bidder shall provide information Hydro Ottawa deems necessary to make this determination. Hydro Ottawa reserves the right to subsequently modify any award based on the Bidder's performance and/or Hydro Ottawa's business needs.
- (3) The Bidder agrees that the exercise of any right described herein shall be without liability on the part of Hydro Ottawa for any damage or claim brought by a Bidder because of same nor shall the Bidder seek any recourse of any kind against Hydro Ottawa because of same.

23. Basis of Payment

Bidders shall quote a fixed fee for each project, excluding applicable taxes, in Canadian Dollars and in accordance with Schedule B – Cost Summary Sheet.

24. Proposed Schedule

TASK	DATE
Issue RFP	April 21, 2010
Last Date for Requests for Clarification	2:00 p.m., May 7, 2010
Closing Date for Proposals	2:00 p.m., May 12, 2010
Bidder Interviews	May 27 & 28, 2010
Award Contract	June 11, 2010

25. Limitation of Liability

Hydro Ottawa does not accept any responsibility for any verbal information or advice or any errors or omissions, which may be contained in this RFP or any documentation, disclosed or otherwise provided by or with this RFP. Neither Hydro Ottawa, nor any of its affiliates, directors, officers, employees or agents make any representations or warranties, either express or implied, with respect to the completeness or accuracy of this RFP and supporting documentation, or any information or opinion contained herein. Any use, or reliance on, the RFP, or on any information or opinion contained herein, or documentation disclosed or otherwise provided by or with this RFP, is at the risk of the Bidder, and neither Hydro Ottawa nor any of its affiliates, directors, officers, employees or agents shall be liable for any action, cost, loss, damage, injury and/or liability whatsoever incurred by any person arising out of the same. The Bidder is responsible for obtaining its own independent legal, accounting, engineering and other advice with respect to this RFP, any information included in this RFP, or in any documentation disclosed or otherwise provided by or with this RFP.

26. Proprietary Information

The Bidder agrees that all rights, title and interests, including copyright ownership, to this RFP and all information and material of any kind whatsoever that may be provided to the Bidder by Hydro Ottawa or otherwise obtained by the Bidder relating to this RFP or in the Bidder's performance of the Services if it is the successful proponent, shall remain the property of Hydro Ottawa and further that all such information and material and any copies thereof shall be returned to Hydro Ottawa upon request. Hydro Ottawa shall obtain all rights, title and interests, including copyright ownership, to the Deliverables that are to be produced and delivered to Hydro Ottawa in accordance with this RFP and Hydro

Ottawa may disclose, use or modify such Deliverables in any manner it deems appropriate. The Bidder shall not do any act that may compromise or diminish Hydro Ottawa's interest as aforesaid. The Bidder further agrees to maintain all information and material that may be provided to the Bidder by Hydro Ottawa or otherwise obtained by the Bidder in relation to this RFP or in the course of performing the Services if the Bidder is the successful Bidder, in strict confidence and to disclose the said information and material only to those of its employees having a need to know same and who have undertaken a like obligation to maintain its confidentiality. The Bidder agrees not to reproduce or disclose or distribute the said information and material to any other third party nor to use the said information and material for any purpose other than as specifically contemplated herein without Hydro Ottawa's prior written consent.

27. Insurance

- (1) The successful Bidder selected through this RFP will be required to provide proof of Commercial General Liability insurance coverage in an amount of five million dollars (\$5,000,000) per occurrence involving bodily injury or property damage.
- (2) The Bidder will also be required to carry an all-inclusive Third Party Automobile Liability Insurance Policy, with a minimum limit of two million dollars (\$2,000,000).
- (3) The Bidder will be required to provide proof of Professional Liability insurance coverage in the amount of five million dollars (\$5,000,000) per occurrence throughout the term of the resulting Agreement, and for a period of five (5) years after the termination of the resulting Agreement.

28. Collusion

By offering a submission to this RFP, the Bidder certifies that the Bidder has not divulged to, discussed or compared its proposal with other Bidders and has not colluded with any other Bidder or parties to this proposal whatsoever.

29. Awarding of Contract

- (1) The award of a contract will be based on the considerations of fee structure, satisfaction of technical requirements, qualifications, expertise and availability of key team members, ability to meet commencement and completion dates, absence of business and legal conflicts, proposed work plan, and ability to meet other requirements listed in this RFP. The lowest bid or any other bid will not necessarily be accepted. Where a Bidder's experience is provided in order to meet the requirements described in this

RFP, the experience must be that for which the Bidder was under Agreement to unrelated entities or persons.

- (2) The successful Bidder will be bound by the Terms and Conditions set out in Part 2 to this RFP. Submission of a proposal constitutes acknowledgement that the Bidder has read and agrees to be bound by these Terms and Conditions. No modification or other terms and conditions included in the Bidder's proposal will be applicable to the resulting Agreement notwithstanding the fact that the Bidder's proposal may become part of the resulting Agreement.
- (3) The successful Bidder will be required to submit a list of the personnel who will be involved in each aspect of the Services, noting their qualifications and training (including dates). Persons not meeting the required competency level and not on the list shall not be employed unless additional approvals from Hydro Ottawa are obtained.

PART 2 TERMS AND CONDITIONS

1. Definitions

In addition to terms defined in the body of these Terms and Conditions and the Schedules thereto, the following terms shall have the meanings set out below:

“Affiliate” means, with respect to any party, (i) any legal entity of which the securities or other ownership interests representing fifty per cent (50%) or more of the equity or fifty percent (50%) or more of the ordinary voting power or fifty percent (50%) or more of the general partnership interest are, at the time such determination is being made, owned, Controlled or held, directly or indirectly, by such legal entity, or (ii) any legal entity which, at the time such determination is being made, is Controlling or under common Control with, such legal entity. As used herein, the term “Control”, whether used as a noun or verb, refers to the possession, directly or indirectly, of the power to direct, or cause the direction of, the management or policies of a legal entity, whether through the ownership of voting securities, by Agreement or otherwise.

“Agreement” means these Terms and Conditions between Hydro Ottawa and the Contractor, including the Schedules attached hereto and made a part hereof by reference hereto and includes any amendments to the Schedules or these Terms and Conditions, from time to time.

“Business Day(s)” means the hours from 7:00 a.m. to 5:00 p.m., Eastern Time, on the weekdays from Monday to Friday inclusive with the exception of statutory holidays observed by Hydro Ottawa.

“Contractor” means party in Agreement with the Hydro Ottawa or the duly authorized representative. This shall include the Contractor, its officers, directors, employees, agents, assigns, and subcontractors.

“Deliverables” means those services and Technical Documents identified as deliverables in the Schedule A- Statement of Work

“Governmental Authority” means any government, parliament, legislature or any regulatory authority, agency, commission or a board of any government, parliament or legislature, or any political subdivision thereof, or any court or, without limitation to the foregoing, any other law, regulation or rule making entity or any person acting under the authority of any of the foregoing or any other authority charged with the administration or enforcement of laws, including the Privacy Commissioner of Canada and the Information and Privacy Commissioner of Ontario.

“Hydro Ottawa”, “HOL”, and “HO” means Hydro Ottawa Limited.

“Person” means any individual, partnership, franchise holder, association, corporation or any Government Authority and its employees, agents or representatives.

“Personal Information” means information about an identifiable individual, including without limitation any information defined or deemed as such pursuant to any applicable laws or regulations related to privacy or data protection, that is transferred to, collected or compiled by, or otherwise under the control or custody of the Contractor and that (i) is about customers or employees of or consultants to the Hydro Ottawa or its Affiliates or (ii) is otherwise held by the Contractor for or on behalf of Hydro Ottawa or its Affiliates.

“Program Management Plan” has the meaning ascribed to it in Schedule A – Statement of Work.

“Project” means the activities involved in the execution of the tasks identified in Schedule A - Statement of Work for replacement of Hydro Ottawa’s existing head office, operation centres, and warehouse facilities with new facilities.

“Project Plan” means the project plan developed by the Contractor in accordance with this Agreement and Schedule A – Statement of Work and as approved by Hydro Ottawa, and as amended from time to time.

“Representatives” in reference to party, means the party’s directors, officers, employees, agents and Contractors, the party’s Affiliates, and all such Affiliates’ respective directors, officers, employees, agents and Contractors.

“Services” means the requested services as stipulated in Schedule A - Statement of Work.

“Technical Documents” has the ascribed to it in Section 17.

2. Priority of Documents

The documents specified below form part of and are incorporated into this Agreement. If there is a discrepancy between the wording of these Terms and Conditions and the wording of any document that appears on the list, the wording of these Terms and Conditions shall prevail. If there is a discrepancy between the wordings of any documents, which appear on the

list, the wording of the document, which first appears on the list, shall prevail over the wording of any document, which subsequently appears on the list:

- (a) Schedule A – Statement of Work
- (b) Project Plan, as amended from time to time, pursuant to the terms of this Agreement
- (c) Schedule B – Cost Summary Sheet
- (d) Conflict of Interest Guidelines [*as provided by the Contractor*]
- (e) The Contractor's proposal dated [*insert date of proposal*]

3. Contract Authority

The Contract Authority is:

David Elliott
3025 Albion Road, North,
P.O. Box 8700,
Ottawa, Ontario
K1G 3S4
Telephone: (613) 738-5499 ext 554
Facsimilie: (613) 738-6420
Email: davidelliott@hydroottawa.com

The Contract Authority is responsible for the management of this Agreement. Only changes to this Agreement that are authorized in writing by the Contract Authority are binding on Hydro Ottawa.

4. Hydro Ottawa Project Manager

The Hydro Ottawa Project Manager will be:

Joey St. Jacques
Hydro Ottawa Limited
3025 Albion Road North,
Ottawa, Ontario
K1G 3S4
Telephone: (613) 738-5499 ext 161
Facsimilie: (613) 738-5475
Email: joeystjacques@hydroottawa.com

The Hydro Ottawa Project Manager is responsible for all matters concerning the technical content of the Services under this Agreement. Any proposed changes to the scope of the Services must be discussed with Hydro Ottawa Project Manager, but only the Contract Authority has the authority to amend this Agreement.

5. **Contractor's Project Manager**

The Contractor's Project Manager is:

[Name]
[Address]

Telephone:
Facsimilie:
Email:

6. **Term**

- (1) Subject to the termination rights contained in this Agreement, and subject to the survival of provisions in accordance with Section 30, the term of this Agreement shall commence on _____, 2010 (" Effective Date") and shall terminate on the latter of _____, 2014, or on the final project completion date as set out in the Project Plan.

7. **Compliance with Applicable Laws**

- (1) The Contractor shall, at its sole expense, obtain and maintain all permits, licenses and approvals required by law or Governmental Authority to conduct its business generally and to perform its duties under this Agreement and to undertake and complete the Services. The Contractor and its Representatives shall comply with all applicable laws, regulations, by-laws, codes and requirements of all Governmental Authorities in undertaking and completing the Services
- (2) Where there is a conflict between any provisions of the above-mentioned authorities, the most stringent provision will govern.

8. **Off-Ramps**

- (1) Hydro Ottawa may, at its sole discretion, exercise its right to terminate all or part of this Agreement at an off-ramp point identified in the Project Plan and, without limitation, following the completion of the Project Plan.
- (2) This Section does not apply where there is an Event of Default, in which case Section 9 shall apply.

- (3) As detailed in the Statement of Work and the Project Plan, the following list of Deliverables will serve as off-ramps :
 - (a) Program Management Plan,
 - (b) Project Plan, and
 - (c) other Deliverables identified in the Project Plan
- (4) At each off-ramp Hydro Ottawa will, in its sole discretion assess the Project's viability based on whether:
 - (a) the Contractor's performance has met the overall expectations of Hydro Ottawa;
 - (b) the business case supports continuing with the Project; and
 - (c) the Project remains in line with Hydro Ottawa's vision, mission, values, and corporate goals.

If any of the above conditions stated herein are not met, Hydro Ottawa may exercise its right to use an off-ramp and terminate all or part of the Services. It is understood and acknowledged by the Contractor that no provision of this Agreement obligates Hydro Ottawa to continue with the Services and Hydro Ottawa assumes no financial liability to the Contractor in relation to any services rendered after notification of the off-ramp.

- (5) Hydro Ottawa shall notify the Contractor, in writing, of its election to exercise its right to use an off-ramp and, within five Business Days of the Contractor's receipt of the notice, Contractor shall provide to Hydro Ottawa a status report which will include a description of the Services completed to date, a list of documentation, information, and data to be transferred to Hydro Ottawa, and any information considered by the Contractor to be of a proprietary nature.
- (6) If Hydro Ottawa exercises its right to use an off-ramp, the Contractor shall be entitled to:
 - (a) payment for all Deliverables completed up to notification of the off-ramp; and
 - (b) payment (based on time and materials as set out in Schedule B – Cost Summary Sheet) for all on-going services performed up to notification of the off-ramp and in accordance with the Statement of Work.
- (7) Any disputes regarding the amount to be paid, or documents, information or data to be transferred to Hydro Ottawa, pursuant to this Section shall be resolved in accordance with Section 23.

9. Termination

- (1) Each of the following will constitute an Event of Default by the Contractor:
 - (a) The Contractor becomes insolvent, makes a general assignment for the benefit of creditors, permits a Receiver to be appointed for its business or assets or becomes subject to any proceedings under the *Bankruptcy Act* or any statute of any provinces, state or other jurisdiction relating to insolvency or the protection of creditor's rights.
 - (b) The Contractor fails to perform any material covenant or obligation set forth in this Agreement (except to the extent constituting a separate Event of Default) if such failure is not remedied within five (5) Business Days after written notice of such failure from Hydro Ottawa.
 - (c) Any representation made by the Contractor is not materially true or correct in any material respect when made and is not made materially true or correct within two (2) Business Days after receipt by the Contractor of written notice of such fact from Hydro Ottawa.
 - (d) The Contractor fails to conform to all applicable legislation and regulations.
 - (e) The Contractor has breached or is in breach of Section 22.
 - (f) The Contractor has breached or is in breach of Section 26.
- (2) If any Event of Default occurs, upon written notice to the Contractor, Hydro Ottawa may terminate this Agreement.
- (3) Despite the foregoing, upon the occurrence of an Event of Default referred to in paragraph (a), this Agreement shall automatically terminate without notice, act or formality, effective immediately before the occurrence of such Event of Default.
- (4) Any termination shall be without prejudice to the rights accruing and remedies subsisting under this Agreement at the date of such termination. In addition, Hydro Ottawa shall be entitled to obtain damages from the Contractor for any losses incurred directly resulting from such Event of Default. Furthermore, in addition to its rights of set-off available to it under this Agreement or at law, Hydro Ottawa may hold back payment or set-off its obligation to make such payment against any payments owed to it if the Contractor fails to comply with its obligations on termination.

- (5) Notwithstanding anything to the contrary contained herein, Hydro Ottawa may, at any time prior to the completion of the Services, terminate this Agreement as regards all or any part of the uncompleted Services, by giving written notice to the Contractor. Upon receipt of a termination notice, the Contractor shall cease Services in accordance with the notice, but shall proceed to complete such part or parts of the Services that are not affected by the termination notice. The effective date of termination shall be no earlier than ten Business Days after the Contractor's receipt of the notice.
- (6) In the event of a termination notice being given pursuant to subsection (5), the Contractor shall be entitled to be paid, to the extent that costs have been reasonably and properly incurred for the purposes of performing the Agreement and to the extent that the Contractor has not already been so paid or reimbursed by Hydro Ottawa, on the basis of the pricing set out in the Agreement, for all Services completed, inspected and accepted in accordance with the Agreement.
- (7) Notwithstanding Section 10, if an event of *force majeure* continues for 30 days or more, Hydro Ottawa, in its absolute discretion, may terminate this Agreement. In such case, the parties agree that neither will make a claim against the other for damages, costs, expected profits or any other loss arising out of the termination or the event that gave rise to the *force majeure*.
- (8) Upon termination, whether pursuant to this Section or the expiry of the Agreement, the Contractor shall provide to Hydro Ottawa all Technical Documents in the format acceptable to Hydro Ottawa without any delay.

10. **Force Majeure**

- (1) Neither party shall be liable in damages or have the right to terminate this Agreement for any delay or default in performing hereunder if such delay or default is caused by conditions beyond its control including, but not limited to Acts of God, Government restrictions (including the denial or cancellation of any permits or other necessary license), wars, insurrections, fires, floods or unusually severe weather, disruptions resulting from labour disputes, governmental or regulatory action and/or any other cause beyond the reasonable control of the party whose performance is affected.
- (2) The delivery requirements specified in the purchase order(s) and affected by such causes shall be extended by periods equal to the duration of the event that gave rise to the *force majeure*. The Contractor shall immediately notify Hydro Ottawa of any event or situation that might possibly create a situation of *force majeure*. Acknowledgement of any *force majeure* is subject to the submission by the Contractor of a written confirmation of proof

of the events or circumstances forming the basis of the Contractor's claim regarding *force majeure*.

11. **Indemnification**

The Contractor shall indemnify and save harmless Hydro Ottawa, together with Hydro Ottawa's Representatives, employees, consultants, successors and assigns, from and against any and all loss, damage, injury, or safety infraction of the Contractor under all conditions and all actions, causes of action, proceedings, suits, claims, demands, losses, damages, penalties, costs (including the payment of all legal fees), expenses, obligations and liabilities in connection therewith, attributable to, related to or arising out of: (i) breaches of the Contractor's obligations herein, (ii) any misrepresentation, inaccuracy, incorrectness or breach of any representation or warranty made by the Contractor contained in this Agreement and/or (iii) any of the Contractor's, its agents', subcontractor' or transferees', acts or omissions, whether negligent or otherwise.

12. **Insurance – Liability**

- (1) Before commencing any Services under this Agreement, the Contractor shall provide a certified copy of its liability insurance certificate attesting its coverage by a Commercial General Liability Insurance Policy. Hydro Ottawa must be named as an additional insured by added endorsement on the Contractor's policy. The coverage shall be five million dollars (\$5,000,000) per occurrence involving bodily injury or property damage. Such coverage must be maintained continuously during the course of the Services under the Agreement, and renewal certificates must be provided as required, satisfactory in form to Hydro Ottawa. Failure by the Contractor to ensure that the required insurance coverage remain in force during the course of the Agreement will result in the immediate termination of the Agreement without notice and without penalty to Hydro Ottawa.
- (2) The Contractor shall have an all-inclusive Third Party Automobile Liability Insurance Policy, with a minimum limit of two million dollars (\$2,000,000).
- (3) The Contractor shall maintain Professional Liability insurance coverage in the amount of five million dollars (\$5,000,000) per occurrence throughout the term of this Agreement, and for a period of five (5) years after the termination of this Agreement. Hydro Ottawa must be named as an additional insured by added endorsement on the Contractor's policy.
- (4) Hydro Ottawa may request, at its sole discretion, a copy of any insurance policies to determine the full extent of the coverage and any specific exclusions, prior to the start of certain Services. Such a request will be

made whenever the nature of the Services creates risk exposures that in the opinion of Hydro Ottawa require detailed analysis of full insurance coverage.

13. **Implementation of Project Plan**

- (1) The Project Plan, once approved by the Contract Authority, shall be incorporated into this Agreement and the Contractor shall carry out its obligations thereunder in accordance with the timetable set forth in the Project Plan and in accordance with this Agreement.
- (2) The Project Plan, once approved, may be revised only with the written approval of the Contract Authority.
- (3) The Contractor shall compute the Project Plan's critical path on a weekly basis and provide an updated Project Plan, if necessary, to the Contract Authority for approval at least once every two weeks.
- (4) The Contractor shall provide to the Contract Authority a written report summarizing its progress at a frequency determined by Hydro Ottawa's Project Manager from time to time. Each report shall identify accomplishments to date, plans for the future, changes in risks, action items, and any significant unresolved problems along with the Contractor's then-current plans for resolving each problem and estimated dates of such resolution regardless of the materiality of the problem, or the Contractor's view of whether Hydro Ottawa can assist in the resolution of the problem.
- (5) Each party shall promptly notify, in writing, the other party upon becoming aware of any delay. In the case of Hydro Ottawa, the Contractor shall notify the Contract Authority and in the case of the Contractor, Hydro Ottawa shall notify the Contractor's Project Manager.

14. **Invoices**

Invoices must be submitted in the name of the Contractor and are not to be submitted prior to the performance of the Services. They must show the name and address of the Contractor, together with Hydro Ottawa's purchase order number, date, item, quantity, unit of issue, unit price, additional charges if applicable, and applicable taxes, and description of services provided.

15. **Payment**

- (1) The Contractor's pricing information is contained in Schedule B – Cost Summary Sheet included herein. The amount of applicable taxes shall be shown on invoices as a separate item.

- (2) Payment shall be based on the fixed price, as set out in Schedule B – Cost Summary Sheet, and upon completion of milestones identified as payment milestones. Payment shall be made in accordance with subsection (4) once an invoice and any other documents required by the Agreement have been submitted, and verified by Hydro Ottawa, in accordance with the terms of the Agreement.
- (3) Hydro Ottawa shall notify the Contractor, within five (5) Business Days of receipt of an invoice or revised invoice, of any inadequacy of the invoice or of the supporting documentation, and where any such notice is given within that period, the date for payment of the amount invoiced shall be postponed until the Contractor remedies the inadequacy to the satisfaction of Hydro Ottawa.
- (4) Payment shall be made not more frequently than once a month. Payment will be made within 30 (thirty) days following the date of receipt of a duly completed invoice, in accordance with Section 14 and subsection (2).

16. **Acceptance**

No part of the Services will be accepted unless approved by Hydro Ottawa and Hydro Ottawa is satisfied that the Services completed fully complies with the true meaning and intent of the specifications set out in Schedule A – Statement of Work. Such acceptance, however, shall not impair any claim that Hydro Ottawa may have for the replacement of defective Services or material.

17. **Technical Documents**

- (1) Hydro Ottawa shall obtain all rights, title and interests, including copyright ownership, to the all plans, drawings, technical specifications, designs, Deliverables, documents, software, data, or proprietary information relating to the Project (the “Technical Documents”). Hydro Ottawa may disclose, use or modify such Technical Documents in any manner it deems appropriate. The Contractor shall not do any act that may compromise or diminish Hydro Ottawa’s interest as aforesaid.
- (2) The Contractor further agrees to maintain all information and material that may be provided to the Contractor by Hydro Ottawa or otherwise obtained by the Contractor in the course of performing the Services in strict confidence and to disclose the said Technical Documents only to those of its employees having a need to know same and who have undertaken a like obligation to maintain its confidentiality. The Contractor agrees not to reproduce or disclose or distribute the said Technical Documents to any

other third party nor to use the said information and material for any purpose other than as specifically contemplated herein without Hydro Ottawa's prior written consent

18. **Records and Audits**

- (1) The Contractor shall keep proper accounts and records of the cost to the Contractor of the Services provided and of all expenditures or commitments made by the Contractor in connection therewith, and shall keep all books and records including invoices, receipts, vouchers, cheques, and bank statements relating thereto. The Contractor shall not, without the prior written consent of Hydro Ottawa, dispose of any such accounts, records, invoices, receipts or vouchers until the expiration of seven (7) years after final payment under this Agreement, or until the settlement of all outstanding claims and disputes, whichever is later.
- (2) All such accounts and records as well as any invoices, receipts, vouchers, cheques, and bank statements shall at all times during the retention period referred to in subsection (1) be open to audit, inspection and examination by the authorized representatives of Hydro Ottawa, who may make copies and take extracts thereof. The Contractor shall furnish all such information as the representatives of Hydro Ottawa may from time to time require with respect to such accounts, records, invoices, receipts and vouchers.

19. **Representations and Warranties**

- (1) The Contractor covenants and agrees with and represents and warrants to Hydro Ottawa as follows and covenants and agrees that such representations and warranties shall remain true and correct throughout the Term:
 - (a) Status. The Contractor is duly constituted, validly existing and in good standing under the laws of its governing jurisdiction;
 - (b) Authority. The Contractor has the necessary power, authority and capacity and good and sufficient right to enter into this Agreement on the terms and conditions herein set forth, and the execution and performance of this Agreement will not conflict with, or constitute a breach under, any agreement to which it is a party or any judgment, order, statute or regulation which is applicable to it;
 - (c) Experience and Financial Capacity. The Contractor has the experience, ability and financial capacity to perform and fulfill its obligations hereunder, and covenants to maintain during the Term, the financial

and other ability and authority to perform and fulfill its obligations hereunder;

- (d) Conflict of Interest. The Contractor has no interest and will not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of service under this Agreement.
- (e) Valid, Binding and Enforceable. This Agreement constitutes a valid and binding obligation of the Contractor, enforceable against it in accordance with its terms and conditions;
- (f) GST / HST Registrant. The Contractor is a GST / HST Registrant in good standing; and
- (g) Canadian Residency. The Contractor is not a non-resident of Canada within the meaning of the Income Tax Act (Canada), as amended

20. **Independent Contractor**

In performing this Agreement, the Contractor shall operate as an independent Contractor, maintaining its own organization as a distinct and separate legal entity from Hydro Ottawa. The Contractor and its Representatives shall have no authority to hold themselves out as acting on behalf of or to legally bind Hydro Ottawa. Nothing in this Agreement shall be deemed to constitute a partnership or a joint venture or to create any fiduciary relationship between Hydro Ottawa and the Contractor.

21. **Employees**

- (1) The Contractor shall employ, and continue to employ throughout the Term, employees with the qualifications and business experience necessary to competently undertake and complete the Services pursuant to this Agreement.
- (2) If requested by Hydro Ottawa, the Contractor shall remove and replace any employee, or contractor, assigned to provide the Services whom Hydro Ottawa, in its reasonable but sole discretion, determines to be unqualified, incompetent, or otherwise unsuitable.
- (3) The Contractor shall provide the services of the resources specified in the Contractor's proposal dated [Date], namely [*names of key project personnel*] to perform the Services unless it is impossible to do so for reasons which are beyond its control. In such case, the Contractor shall be responsible for providing replacement(s) who shall be of equal or superior ability and attainment.

- (4) In no event shall the Contractor allow replacement personnel perform any of the Services until the Contractor has obtained the approval of Hydro Ottawa in accordance with subsection (4)
- (5) Prior to replacing personnel, the Contractor shall give written notice to Hydro Ottawa no later than ten (10) Business Days before the date the proposed replacement is to take effect. The notice shall include the reason for the replacement; and the name, qualifications and experience of the proposed replacement.

22. **Confidentiality**

- (1) Each party agrees to (a) keep confidential all Confidential Information disclosed to by the other party during the term of this Agreement and (b) not to disclose any of such Confidential Information to any third party or any of its Representatives except where: (i) such disclosure is to the Ontario Energy Board or, (ii) such disclosure is necessary in connection with this Agreement and the recipient has agreed to be bound by the obligations of confidentiality under this Agreement. "Confidential Information" means any proprietary ideas, plans and information, including without limitation, information of a technical or business nature (including without limitation, Technical Documents, all trade-secrets, technology, financial information, intellectual property, any information relating to human resources matters, data, summaries, reports, the terms of this Agreement, or customer lists, whether oral or written and if written, however produced or reproduced) of a party or any of its Affiliates that is received by or otherwise disclosed by one party to the other party that is marked proprietary or confidential, or that would logically be considered proprietary or confidential under the circumstances of its disclosure. In addition, no party shall directly or indirectly use to its own advantage any such Confidential Information. If this Agreement is terminated at any time, the parties agree that such Confidential Information provided and all copies thereof (excluding Confidential Information in oral form that has not been put into tangible form) will be immediately returned to the disclosing party or, at the disclosing party's option, destroyed. Notwithstanding the foregoing, the receiving party shall be entitled to keep, subject always to all the provisions of this Agreement, one copy of any notes, analyses, reports or other written material prepared by, or on behalf of, the receiving party that contain Confidential Information for its records. In the event of any destruction of Confidential Information as set forth above, the receiving party shall provide to the disclosing party, upon request, a certificate of one of its senior officers certifying such destruction.
- (2) The Contractor shall (a) collect, use, disclose, and retain Personal

Information only as required to fulfil its obligations pursuant to this Agreement; (b) take appropriate measures to ensure the privacy and security of all Personal Information, including taking measures to prevent unauthorized access, collection, use, disclosure, copying, modification or disposal; and (c) comply with all applicable laws or regulations related to privacy or data protection.

- (3) Confidential Information shall not include information that: (a) is already known to the recipient at the time of disclosure; (b) is or becomes publicly known otherwise than by a breach of this Agreement by the receiving party or its Representatives or any third person to whom it discloses such Confidential Information; (c) is communicated to a third party with the express written consent of the disclosing party; (d) is independently developed by the recipient without the benefit of having received said confidential information; (e) is lawfully required to be disclosed, provided that, prior to making such disclosure, to the extent permitted by law, the recipient shall immediately give the disclosing party written notice and cooperate with the disclosing party in applying for an order to prohibit or restrict such disclosure and/or to assure confidential handling of such Confidential Information.
- (4) Each party shall be responsible for any breach of this Agreement by the party, its affiliates, its Representatives and any person to whom it discloses any Confidential Information. Full and faithful performance by each of the parties hereto of all obligations under this Agreement is the essence of this Agreement. Each of the parties hereto acknowledges that monetary damages are not an adequate remedy for violations of the obligations of confidentiality under this Agreement and that any non-compliance or breach thereof shall result in irreparable harm to the disclosing party, and that in such event the disclosing party shall be entitled to equitable relief, including injunctive relief, without prejudice to any other remedies available to the said disclosing party.
- (5) The obligations of confidentiality herein shall survive the termination or expiry of this Agreement.

23. **Dispute Resolution**

- (1) The parties shall attempt in good faith to agree upon the rights of the respective parties with respect to any dispute or controversy arising out of, relating to, or in connection with this Agreement (including, but not limited to the Project Plan, replacement of personnel, payment, or scope) or the interpretation, validity, construction, or performance thereof (the "Dispute"), save and except in the case of an event of Default, in which case the provision of this Section 23 do not apply.

- (2) If Hydro Ottawa's Project Authority and the Contractor's Project Authority are unable to resolve the Dispute within five (5) Business Days of one party delivering to the other a written request to negotiate, then the Dispute shall be referred to Hydro Ottawa's Manager, Supply Chain and Facilities and the Contractor's [insert title].
- (3) If within five (5) Business days of the referral set out in subsection (2), Hydro Ottawa's Manager of Facilities and the Contractor's [insert title] are unable to resolve the Dispute, then the Dispute shall be referred to Hydro Ottawa's Chief Financial Officer and the Contractor's Chief Executive Officer.
- (4) If the parties do not reach a solution pursuant to subsection (3) within a period of five (5) Business Days following the referral of the Dispute, then upon written notice by any party to the other, the Dispute shall be finally settled by arbitration in accordance with the provisions of the *Arbitration Act, 1991* (Ontario), based upon the following:
 - (a) The arbitration tribunal shall consist of three arbitrators. Each party shall appoint one arbitrator, and the two arbitrators so appointed shall appoint a third arbitrator who shall act as president of the arbitration tribunal.
 - (b) Each arbitrator shall be instructed that time is of the essence and the arbitration tribunal shall set a limited time period and establish procedures designed to reduce the cost and time for discovery while allowing the parties an opportunity, adequate in the sole judgment of the arbitration tribunal, to discover relevant information from the opposing parties about the subject matter of the dispute. In any event, the arbitration award must be made within thirty (30) days of the submission of the Dispute to arbitration.
 - (c) After written notice is given to refer any Dispute to arbitration, the parties will meet within five (5) Business Days of delivery of the notice and will negotiate in good faith any changes in these arbitration provisions or the rules of arbitration which are herein adopted, in an effort to expedite the process and otherwise ensure that the process is appropriate given the nature of the Dispute and the values at risk.
 - (d) The parties agree that section 52(1) of the *Arbitration Act, 1991* (Ontario) does not apply to any Dispute submitted to the arbitration.
 - (e) The arbitration shall take place in Ottawa, Ontario.

- (f) The arbitration tribunal shall rule upon motions to compel or limit discovery, and shall have the authority to impose sanctions, including attorneys' fees and costs, to the same extent as a court of competent law or equity, should the arbitration tribunal determine that discovery was sought without substantial justification or that discovery was refused or objected to without substantial justification.
- (g) The decision of the arbitration tribunal shall be final, conclusive and binding upon the parties to this Agreement and there shall be no appeal therefrom, including, without limitation, any appeal to a court on a question of law, a question of fact, or a question of mixed fact and law.
- (h) For purposes of this Agreement, in any arbitration hereunder, the non-prevailing party to arbitration shall pay its own expenses, the fees of the arbitration tribunal, the administrative costs of the arbitration and expenses. The costs of arbitration include the arbitration tribunal's fees and expenses, the provision of a reporter and transcripts, reasonable legal fees and reasonable costs of preparation. Each party shall pay its own attorneys' fees and costs. The arbitration tribunal shall have sole discretion in determining which party, if any, shall be deemed the prevailing party in the arbitration.
- (i) Judgment upon any award rendered by the arbitration tribunal may be entered in any court having jurisdiction. Or application may be made to the court for a judicial recognition of the award or an order of enforcement, as the case may be.
- (j) All Disputes referred to arbitration (including the scope of the agreement to arbitrate, any statute of limitations, set-off claims, conflict of laws rules, tort claims and interest claims) shall be governed by the substantive law of Ontario.
- (k) The parties agree that the arbitration shall be kept confidential and that the existence of the proceeding and any element of it (including any pleadings, briefs or other documents submitted or exchanged, any testimony or other oral submissions and any awards) shall not be disclosed beyond the arbitration tribunal, the parties, their counsel and any person necessary to the conduct of the proceeding, except as may lawfully be required in judicial proceedings relating to the arbitration or otherwise or as may be required by law.

24. **Successors and Assigns**

- (1) This Agreement shall enure to the benefit of and be binding upon the parties thereto, and except as otherwise provided therein, upon the executors, administrators, successors, and permitted assigns.
- (2) Notwithstanding subsection (1), the Contractor shall not assign its rights under this Agreement, in whole or in part, without the prior written consent of Hydro Ottawa. Hydro Ottawa may apply terms and conditions in respect of such consent. An amalgamation shall be deemed to be an assignment by operation of law, in respect of which Hydro Ottawa's prior written consent is required. The transactions referred to in the preceding sentences are referred to as "Transfers" and "Transferee" has a corresponding meaning.
- (3) Any corporate change of control, change in partnership, or other dealing which has the result of changing the effective control of the Contractor will be deemed to be a Transfer in respect of which Hydro Ottawa's prior written consent is required. This does not apply, however, if the Contractor is a company with its shares listed on a recognized stock exchange nor does it apply if the Contractor is a subsidiary of such a company and the effective date of control occurs by virtue of dealings with the shares of the parent company.
- (4) Hydro Ottawa may assign its rights under this Agreement, in whole or in part, without the prior written consent of the Contractor.

25. **Time of Essence**

Time shall be of the essence of this Agreement.

26. **Conflict of Interest**

While performing its obligations under this Agreement, the Contractor shall implement and comply with its conflict of interest practices, processes, and procedures, including the Conflict of Interest Guidelines attached hereto as Schedule [to be provided by Contractor], and upon request, shall provide Hydro Ottawa with proof thereof.

27. **Performance**

The Services shall be performed in accordance with the approved industrial practices and carried out by technicians or workers skilled and qualified in

the type of services required. The Contractor shall conduct itself with the utmost professionalism to ensure good working relations.

28. **Entire Agreement**

The terms and conditions set forth in this Agreement constitute the full and final expression of the Agreement in respect of the Services, and all matters contemplated in this Agreement, and supersedes all prior quotations, purchase orders, correspondence or communications whether written or oral between the Contractor and Hydro Ottawa. Notwithstanding any contrary language in the Contractor's purchase order, correspondence or other form of acknowledgement, the Contractor shall be bound by this Agreement. **ANY ADDITIONAL OR ANY DIFFERENT TERMS ARE REJECTED UNLESS EXPRESSLY AGREED TO IN WRITING BY BOTH HYDRO OTTAWA AND THE CONTRACTOR.**

29. **Amendments and Waivers**

No amendment or waiver of any provision of this Agreement shall be binding on either party unless consented to in writing by such party. No waiver of any provision of this Agreement shall constitute a waiver of any other provision, nor shall any waiver constitute a continuing waiver, unless otherwise provided.

30. **Survival**

Any terms, which by their nature are intended to survive the termination of this Agreement, shall continue in full force and effect after termination, which terms shall include, but not be limited to Sections 9, 11, 12, 17, 18, 19, and 22.



RFP 017-10 Project Management Services

Schedule A – Statement of Work

Introduction

Hydro Ottawa Limited (HOL) is intending to optimize its current facilities and to this end has established a plan that represents our current view of how this could be done. This plan forms the basis for this RFP. However we do not want to pre-judge the outcome and want to make clear that the scenarios described in the RFP are subject to modification as a consequence of the project management plan and project plan developed by the successful Bidder

To this end, Hydro Ottawa Limited is now soliciting proposals from qualified firms to provide comprehensive project management services in support of four major capital construction / acquisition projects that we have envisioned:

1. Central Office Facility
2. Operations Centre – East Territory
3. Operations/Fleet Centre – South Territory
4. Warehouse Facility

The purpose of this RFP is to retain a project management firm that will be responsible for leading HOL through the development and execution of a commercial real estate plan that supports the above envisioned projects and, in addition, supports HOL and their real estate agent in disposing of surplus properties. There are two phases delineated in the RFP: Program Management (design) and Project Management (execution).

About Hydro Ottawa

Hydro Ottawa Holding Inc. (HOHI) owns and operates two subsidiary companies that distribute electricity, generate power and provide energy services. Together, our 600+ employees focus on providing reliable, effective and efficient services to customers while delivering value to our shareholder, the City of Ottawa.

Hydro Ottawa Limited (HOL or hydro), a wholly owned subsidiary of Hydro Ottawa Holding Inc. (HOHI), is the third largest municipal electricity distribution company in the province. Hydro Ottawa is responsible for the safe, reliable delivery of electricity to more than 291,000 residential and business customers in the City of Ottawa and the village of Casselman.

As a community company, Hydro Ottawa is committed to delivering value to the customers we serve through providing reliable, affordable service. Hydro Ottawa also plays an important role in promoting energy conservation in our community.

Energy Ottawa Inc. (EO) is a diversified and innovative energy company that generates green power and offers an extensive range of energy management and procurement services to a wide variety of customers. A wholly owned subsidiary of Hydro Ottawa Holding Inc., Energy Ottawa is committed to the highest standards of customer service and environmental responsibility.

Hydro Ottawa is a local electricity distribution company regulated by the Ontario Energy Board. The Affiliate Relationship Code issued by the Ontario Energy Board requires that costs attributable to HOHI and EO must be separated from the costs that are recoverable from the customers or ratepayers of HOL. This cost separation must be considered throughout the progress of this project.

Executive Summary

As part of HOL's ongoing commitment to analyze and review best value options for its operations, an internal analysis of Hydro's real property assets was conducted. The analysis has determined that some of the existing assets in Hydro's portfolio are not optimally responsive to the organization's business, and require extensive life-cycle renewal if the assets are to continue to be operational.

As a result of the analysis, a decision was made to develop new facilities that will support the organization in delivering services to the community more efficiently and effectively than maintaining the less than optimal assets. The following is an overview of the new facilities to be constructed or acquired as part of this Project:

Central Office Building (HQ)

The proposed Project is the acquisition or construction of a 120,000 square foot (approx.) building that will accommodate the management and administrative staff of HOL, HOHI and Energy Ottawa personnel (up to 480 Staff). The primary goal for the new headquarters is to consolidate the "inside workers" into one location supporting more functionally responsive workspace, enhanced employee wellness, and improved access and operational effectiveness. The new HQ facility will include a state of the art System Control Centre, training facilities, meeting/multipurpose rooms, back-up power supplies (Generator/UPS), servers, management offices, cafeteria, fitness centre, etc.. The site should include surface & subsurface parking. The building will be designed to meet LEED Certification – Gold standards.

East Operations Centre (East Ops Centre)

Hydro Ottawa requires an operations centre be developed and positioned to better respond to ongoing service requirements from an ever expanding customer base in the eastern part of its service territory. The proposed Project is the acquisition or construction of a 30,000 square foot (approx.) garage to accommodate 25 - 30 line trucks and up to 10,000 square foot office to accommodate 50 staff (mix of line and administrative). A separate building to house a Transformer Shop and Overhead Crane facility, along with storage for electrical equipment, cable reels, transformers, etc. will be included in the overall design. Outdoor storage should also be included on this property. The East Operations Centre will be designed to meet LEED Certification-Silver.

South Operations/Fleet Centre (South Ops Centre)

Hydro Ottawa also requires a similar operational truck centre be developed in the southern part of its service territory to respond to ongoing service requirements from their customers. The proposed Project is the acquisition or construction of a 40,000 square foot (approx.) garage to accommodate 25 - 30 line trucks and 10,000 square foot office to accommodate 50 staff (mix of line and administrative). The South Ops Centre will also house the Fleet Centre which will require enough garage space for an additional 6 line trucks. The South Operations/Fleet Centre will be designed to meet LEED Certification-Silver.

Warehouse/Meter Shop

The proposed Project is the acquisition or construction of a 25,000 square foot (approx.) centralized storage and distribution centre warehouse that will store electrical equipment as well as our ISO certified meter test and calibration facility. The space should accommodate about 43 staff; 15 inside workers and 28 outside workers. The building should include a loading dock, material handling equipment, and exterior storage space. The Warehouse/Meter Shop may be designed to meet LEED Certification-standard.

Other Considerations

There are four properties which become redundant and will be offered for sale as the new facilities come on line. Our real estate agent will be working with the team to locate suitable properties for the above new facilities as well as handle the sale of the surplus properties. Dependant on the availability of property options, HOL would consider a "Campus Concept" where the main office building could be co-located with an Ops Centre.

Once the final Program Management Plan is developed, the successful Bidder will have to be prepared, from time to time, to act as an expert witness in regard to the Program Management Plan before the Ontario Energy Board.

Background Information

This part of the document describes the background and current state of Hydro Ottawa's real estate situation as it applies to this RFP, and then provides some insight into our desired future state. Some definitions are provided at the end of this section.

1. Current Scenario

With the amalgamation of the City in 2000, Hydro Ottawa was formed from the former utilities of Ottawa (aka Albion), Gloucester (aka Bank), Nepean (aka Merivale), Kanata and Goulbourn, assimilating all their assets, including their office buildings, warehouses, garages and surrounding properties. Currently, we still own and operate these sites with the exception of Goulbourn's.

Hydro Ottawa, since amalgamation, has continuously reviewed its operational practices to enable more efficient and effective servicing of the long-term needs of its customers. From a Construction and Maintenance (CAM) perspective, our current model centered is based on a decentralized workforce based in Ops Centers strategically located at points east, west, south and central, to which the workforce reports, and deploys from. The concept has proven sound but there is a need to optimize some of these locations.

With respect to the Administrative and Engineering functions, the situation is much less optimized. Currently, there are about 380 inside workers combined between Albion and Merivale. Approximately 160 are located at Merivale and 220 housed at Albion. Some departments based at Albion have split staff at both locations, notably Finance and Procurement, necessitated by a need to be close to parts of their client base in the Operations group. Additionally, in order to provide training for larger groups, facilities were developed at the Bank location as there was no room at Merivale or Albion. As the company expands, the only overflow option is to continue to populate Bank, resulting in a third location emerging for inside workers. Hence the time has come to reverse this progressive decentralizing and develop a plan to consolidate all inside workers into one central office or headquarters building.

Albion

Albion is the prime problem with moving forward with the centralized concept. It has many factors which would be mitigated by abandoning the site and moving inside staff to a new central HQ and establishing a new and separate East Ops Center for the CAM staff, currently based out of Albion.

Albion Profile

Site Size (less substations)	14 acres
Office Area	80,125 sq ft
Garage Area	62,433 sq ft (accommodates 110+ vehicles)
Material Storage (Indoors)	15,324 sq ft
Yard Space	7- 8 acres
Employee Parking	380+ cars
Current Appraised Value	\$10.8 – 12.4M
2009 Capital Spend	\$0.8M
2009 Operating Spend	\$1.9M
Staff Breakdown	
Inside Staff	234
Outside Staff	84
Total	328

Key Concerns

- The area has morphed into a dense residential neighborhood, with predominantly young families - not compatible with the high volume of large line trucks driving in and out of the site daily plus the personal vehicles of over 350 employees.
- Access for line staff to the downtown and east territory is now very inefficient due to the progressively increasing traffic volumes and lack of limited access roadways in the vicinity of Albion. Travel times to get to job sites are getting longer and longer tying up valuable human and fleet resources unproductively.
- The office component of the complex is at capacity and any further growth in human resources cannot be accommodated without costly renovations to parts of the building to convert former storage areas into office space. And despite a costly fit-up, the reclaimed space would be decidedly substandard.
- The truck parking garage has height restrictions preventing the newer, larger line trucks from entering. This issue is going to become a significant problem as the fleet is being continuously renewed year over year.
- The building envelope / systems, although kept in good repair, have components that are nearing the end of their useful life and will have to be replaced. These are primarily HVAC units, electrical panels, washrooms, elevators, garage roofing, garage floors, overhead crane, and windows.
- The building is over 50 years old and has a variety of heating and cooling systems that are not very synergistic necessitating constant tweaking by Facilities staff to even out the internal climate. Also, the utility costs are significantly higher than those of a comparably sized modern building and not in keeping with an organization outwardly focused on energy conservation. Buildings of this vintage are expensive to convert to operating on "Green" or LEED principles. Relocation offers the opportunity to sensibly incorporate these principles and reduce the load on non-renewable resources.
- Albion is located in an area that is not conducive to the use of public transit unless one is prepared to endure a long and inconvenient bus ride, from all quarters of the city. Embracing "smart growth" principles such as enabling and encouraging the use of public transportation would be an objective of relocation.

Assuming the Albion inside workers would move into the new HQ building, the East CAM group would require a new base. A preferred location is in the vicinity of 417 and Innes or on the 174 near the Blair access ramp. This area provides for direct access to major arterials to either get downtown or to the eastern extremes of our service territory.

There are a number of facilities implications that would ensue from the vacating of Albion that need to be considered. The following are essential components of a new Ops Centre:

- Parking Garage for line trucks
- Office space for CAM outside management staff
- Indoor facilities for line staff (drying room, tool crib, lockers, etc.)
- PILC (lead cable) handling and storage

The benchmark for the first three items is the Kanata Ops Centre which currently provides these amenities cost effectively.

The following are functions currently housed at Albion that could be located separately but could easily co-exist with an Ops Centre or Warehouse:

- Yard space to replicate Albion's outside storage areas
- Transformer decommissioning shop and associated transformer oil storage and handling (including some PCB issues)
- Meter Shop test and calibration facility
- Backup System Control Centre

Merivale

Merivale, the former Nepean Hydro operation, is also near end of life. Although refurbished in 2005, it is at capacity in most respects – human resources, garage space, employees' parking. It houses the Central Warehouse function and the main System Office. A new HQ concept would remove about 130 inside workers, rendering the building 75% empty. The South operations CAM group is based at Merivale and utilizes a separate parking garage on the premises with CAM management staff housed in the office building.

Merivale Profile

Site Size	7 acres
Office Area	42,982 sq ft
Garage Area	14,100 sq ft (accommodates 20+ vehicles)
Material Storage (Indoors)	16,250 sq ft
Yard Space	1.5 acres (approx.)
Employee Parking	180 cars
Current Appraised Value	\$6.75 – 7.25M
2009 Capital Spend	\$0.2M
2009 Operating Spend	\$0.7M
Staff Breakdown	
Inside Staff	46
Outside Staff	167
Total	213

Key Concerns

- No room for growth – office, garage and employee parking are all at capacity.
- An acquisition of adjoining property and construction of new space will soon be essential to enable any further growth of the operation.
- Access for line staff to the northern parts of the territory has become very inefficient due to the progressively increasing traffic volumes and lack of limited access roadways in the vicinity of Merivale. Travel times to get to job sites are getting longer and longer tying up valuable human and fleet resources unproductively.
- The building envelope / systems, although kept in good repair, have components that are nearing the end of their useful life and will have to be replaced. These are primarily HVAC units and windows.

The exodus of the inside staff to a new HQ would likely provide the impetus to abandon Merivale in favour of a more optimal location that would be more central to its customer base and afford quicker access to all parts of the South territory. An ideal location, that meets these criteria, would be in the vicinity of the 416 and Fallowfield.

As with Albion, there are a number of facilities implications that would ensue from the vacating of Merivale that need to be considered. The following are essential components of a new Ops Centre:

- Parking Garage for line trucks
- Office space for CAM management staff
- Indoor facilities for line staff (drying room, tool crib, lockers, etc.)

The benchmark for a new South operations facility is the Kanata Ops Centre which provides all these amenities cost effectively.

The Central Warehouse function currently housed at Merivale should be located separately from any other facility.

The main System Office is also at Merivale; this function would be reestablished in a new HQ facility.

Kanata

The Kanata facility is on the former Kanata Hydro property. In 2005, a purpose-built Ops Centre was built on the property at a cost of \$3.3M consisting of a 13 bay garage with an attached office and locker room facilities for line staff. As mentioned previously, this will form the basis for the new East and South Ops Centres.

Ops Centre

Site Size	5.2 acres
Office Area (Ops Centre)	5500 sq ft
Garage Area (Old Kanata Hydro Bldg.)	4850 sq ft
Garage Area (Ops Centre)	23,000 sq ft
Material Storage (Indoors)	N/A
Yard Space	1.3 acres
Employee Parking	50 cars
2009 Capital Spend	\$98K
2009 Operating Spend	\$220K
Staff Breakdown	
Outside Staff	36
Total	36

Former Kanata Hydro Facility

The former Kanata Hydro facility is located adjacent to the new Kanata Ops Centre. It is not used by HOL and is currently lease to a third party. An application is with the City to have the property severed.

Site Size	2.8 acres
Office Area (Old Kanata Hydro Bldg.)	13,000 sq ft
Garage Area (Old Kanata Hydro Bldg.)	4850 sq ft
Employee Parking	50 cars
Current Appraised Value	\$1.75 – 1.8M
2009 Capital Spend	\$5K
2009 Operating Spend	\$200K
Staff Breakdown	Leased to 3rd Party

Bank

The Bank Street facility was the former Gloucester Hydro facility. The building is primarily vacant but does house facilities for large scale training for both management and operations personnel. It is equipped to handle both overhead and underground apprentice training. The Fleet Maintenance garage is also located at the Bank facility and was established in 2005.

Site Size	8.65 acres
Office Area	43,908 sq ft
Garage Area	12,061 sq ft
Material Storage (Indoors)	N/A
Yard Space	4 acres
Employee Parking	100 cars
Current Appraised Value	\$4.25 – 4.75M
2009 Capital Spend	\$0.3M
2009 Operating Spend	\$0.4M
Staff Breakdown	
Inside Staff	8
Outside Staff	13
Total	21

The property is essentially surplus as the administrative training facility can be accommodated in a new Central Office building. The operations apprentice training capability could be installed in a new Ops Centre to be constructed. Similarly, the Fleet maintenance function would co-exist with the South Ops Centre.

2. Future Scenario

The future state objectives, as currently envisioned by HOL, are two-fold:

1. Establish a new purpose-built LEED Gold office building to consolidate all inside workers under one roof.
2. Ensure the Ops Centers (LEED Silver) for each of East and South service territories are optimally located.

The act of establishing a new Central Office building, and bringing all inside workers under one roof, would result in approx. 200 people vacating Albion and 130 vacating Merivale rendering both office buildings fundamentally empty. The outside workers who were based at Albion and Merivale will be relocated to new Ops Centers to be established for the East (Albion) and South (Merivale) territories.

In summary, Albion, Merivale and Bank facilities are redundant and will need to be disposed of. A new central office building will have to be established. New Ops Centers will have to be built for the East and South. A new central warehouse and yard facility will be required. A PILC (lead cable) handling facility will be needed. The Fleet Centre, Meter Shop and Transformer Shop will have to be relocated in the new facilities.

Bank has been underutilized for some time and if it were vacated, new training facilities for OPS and Administrative personnel would be needed. The Kanata Ops Centre is deemed an optimally located and sized facility. The office portion was designed to accommodate the addition of a second floor, if required, in the future.

The background and implications of these activities will be discussed below.

New Central Office Building

The new office building will be located to provide appropriate public visibility of Hydro Ottawa's presence, reflect our concern for energy conservation, provide free parking for employees, and ideally be close to public transportation and represent good economic value. Presupposing all these criteria cannot be practically met with a downtown location, a location somewhere along the Queensway or Hunt Club could be areas of focus. The building would have to be constructed to LEED Gold standards. Parking could be a mix of underground and outdoor but if there is limited open ground space, it is recognized that an underground provision is very expensive or, potentially, an above ground, multi-story "parkade" may be an option. The public transportation criteria could be problematic with some sites on these routes (an important criteria but not a show-stopper).

The building would initially house approximately 400 inside workers, based on our current staff levels. The System Office would be included. Considering opportunity for growth, the building should be planned to accommodate approximately 20 – 30% more staff. By roughly allowing 250 sq ft / person = 120,000 sq ft of building = 480 staff.

East Operations Territory

Vacating Albion will require establishing a new Ops Centre for the East Operations group. This would be modeled on the Kanata Ops Centre – a multi-bay parking garage and attached office facility with a small yard for keeping emergency material (transformers, poles, etc.).

An optimal location is around the Cyrville Rd. / Innes Rd. intersection. This provides for quick access to Hwy 174 or Innes Rd to travel east. The location would permit direct access to the Queensway to Nicholas to downtown. Other sites in the vicinity will be considered with the same criteria in mind.

Albion has a 10-ton overhead crane facility needed to manage the PILC (lead) cable, used in the downtown core, which will have to be replicated elsewhere. This could be accommodated in the new Eastern Ops Centre.

Albion has 7 – 8 acres of yard space used to house poles, wire & cable, transformers and switchgear that cannot be accommodated at Merivale, due to space limitations, that will have to be accommodated elsewhere (more on this below).

The Transformer Shop at Albion decommissions all transformers taken out of service. This facility would be optimally co-located with the PILC (lead cable) handling facility.

The Transformer Shop would be incorporated into the overhead crane facility becoming the location for transformers removed from service to be delivered to.

Albion houses our ISO certified Meter Shop and associated Field Services. This facility could be accommodated in a new Ops Centre or new warehouse (see below).

Finally, the backup System Office, currently housed at Albion, would have to be relocated, most likely at an Ops Centre.

South Territory

Merivale houses the Central Warehouse where 90% of the material used by Operations is received, stored and issued from, plus about 1.5 acres of yard space. Consequently, a new warehouse would be required along with 6 - 10 acres of yard space, where the material currently stored outdoors at Albion, could be co-located. The warehouse can be located anywhere in the city as our practice is to move needed material to the

appropriate Ops Centre by 3rd party carriers overnight. Something suitable is likely available in the east end industrial areas. The System Office would have to be relocated, likely to the new central office building.

Operationally, the South territory would be optimally served from an Ops Centre located near the 416 and Fallowfield. Again, the Ops Center would be modeled on the Kanata Ops Centre concept – a multi-bay parking garage and attached office facility with a small yard for keeping emergency material (transformers, poles, etc

3. Summary

Head Office

- Consolidates all administrative and technical staff; System Office; Administrative Training facilities
- Energy efficient – LEED Gold
- Approx 120,000 sq ft @ 250 sq ft / employee = 480 employees = approx. 30% growth allowance
- Provide acceptable public visibility
- Free employee parking
- Accessible to public transportation
- Between Blair and Pinecrest / Greenbank
- Lowest cost (best value) option

Ops Centers

- Decentralized into 4 service territories – East, South, West and Central
- West (Kanata) Ops Centre is benchmark
- New Ops Centers to be built for East and South territories only. West (Kanata) and Central unchanged.
- Locate on major arterials for quick access to all reaches of respective service territory
- Limited to areas zoned Industrial

Fleet (Repair) Center

- Centrally located to all 4 Ops Centers
- Co-located with South Ops Center (trade-off of long drive for East Ops vehicles vs. no drive for South Ops)
- Consider decentralizing - have a bay in each Ops Center instead of one location

Warehouse

- Locate in low cost industrial area – SW quadrant of Russell/St. Laurent / Walkley area or north at Industrial / Star Top
- Requires zoning for outdoor storage
- Deliveries to Ops Centers occur overnight by 3rd party carriers – no need to have line staff drive to warehouse
- Co-locating with an Ops Center enables inefficient use by line staff – ad hoc visits to warehouse for material, disrupt warehouse operations and is productivity drain by reducing linemen’s “wrench time”.
- Low value/High use material and a limited selection of common spares to be stored at each Op Center for emergency repairs

Meter Shop

- Requires loading dock, material handling equipment, 5000sq ft of storage space
- Ideally co-located with Warehouse

Overhead Crane

- Required to handle the lead cable (PILC) used only in City core
- Used by East Ops Underground Team
- Also needed for off-loading large failed transformers which are drained and de-commissioned in the Transformer Shop
- Transformer Shop must be co-located with Crane
- Likely a separate structure (Butler-type building)

Definitions

PILC	A type of cable used underground in the City core. It is lead-jacketed covered with a plastic outer sleeve. A reel weighs about 7,000Kg.
CAM	The name of our <u>Construction and Maintenance</u> operations group; essentially, all the line staff responsible for maintaining the overhead and underground distribution system.
Albion	Combined office and garage (CAM East Ops Centre); former Ottawa Hydro facility
Merivale	Combined office and garage (CAM South Ops Centre); former Nepean Hydro facility
Bank	Fleet Centre, Apprentice Linemen Training, Administrative Training; former Gloucester Hydro facility

Ops Centre	Operations Centre or parking garage / office complex for line staff. One required for each service territory – East, South, West, and Central. West and Central will remain as is.
System Office	The “Control Centre” of the HO distribution network. Vigilance on outage management and load switching is managed in this facility.
Fleet Centre	Facility where vehicles are serviced and repaired; currently located at Bank

Requirement

Hydro Ottawa Limited (hereinafter referred to as the “Project Authority or HOL”) is seeking offers to retain the services of a project management firm (hereinafter referred to as the “Consultant”) to provide professional project management services. The Consultant will have extensive experience working within commercial office and technical environments related to managing capital projects. The Consultant will manage all aspects of Project from feasibility, project planning, through design, tender, construction, integration and commissioning.

The Statement of Work is divided into two (2) phases:

1. Program Management Plan (PMP) – Design (Development)
2. Project Management (PM) –Execution (Construction)

Once the final Program Management Plan is developed, the successful Bidder will have to be prepared, from time to time, to act as an expert witness in regard to the Program Management Plan before the Ontario Energy Board.

Program Management Plan (PMP)

The objective is to produce a **PMP document** to submit to the market that describes the overall program structure, deliverables, related management plans and procedures, and the methods used to plan, monitor, control, and improve the project development efforts. Services required during the PMP phase include both, a Viability Analysis and Business Case Development which will require the Consultant to gather and review existing documentation and perform stakeholder interviews to develop the context and assessment of information relevant to the assignment, including, **but not limited to:**

- Review and understand HOL’s vision, mission, values, overall strategic issues and strategic goals and strategies to reach its corporate goals and how same will impact commercial space selection
- Review political, governance, employee profile information of HOL and its impact on commercial space location, profile and merits of owning or leasing commercial real estate
- Review current and future program and growth needs and requirements of HOL
- Perform relevant stakeholder interviews to obtain input as to growth, space and facility requirements critical to support Hydro Ottawa programs
- Review necessity, constraints, advantages, disadvantages of separate locations versus collocations of different departments within Hydro Ottawa and impact on productivity, customer services, economies of scale, resource sharing, cost impacts

- Review and advise on sustainability considerations
- Review current real property assets of HOL
- Establish and confirm functional and location criteria for commercial property assets
- Establish use of facilities and impact on zoning criteria for commercial asset location
- Review and provide advice, cost/benefit analysis on leased versus owned commercial assets
- Establish criteria for commercial space selection based upon the foregoing
- Define the final requirements of the PMP, including scope, quality and overall budget and schedule of implementation through the use of detailed investigation and analysis reports or feasibility studies where required, which will identify options, technical limitations, and factors relating to space location and criteria
- Establish and finalize ownership criteria for the commercial real estate assets required
- Finalize sustainability targets
- Establish and define the quantity and profile of the space required and locations of same to provide parameters for an RFP for commercial space, to submit to the market (PMP)
- Work with commercial real estate agent to determine product availability
- Perform options and financial analysis and recommendations
- Advise HOL and finalize estimated costs of PMP
- Establish and define the implementation schedule
- Assist in preparation of presentations to Senior Management and Board of Directors of the PMP and Implementation Schedule
- Assist in the preparation of an RFP(s) which incorporates the PMP and Implementation Schedule
- Participate in the RFP(s) process including establishing evaluation criteria and assisting or leading the selection process with HOL

Project Management (PM)

Hydro Ottawa views Project Management as the comprehensive management and control of all aspects of the Project throughout all phases of its life cycle to achieve prescribed objectives defined in terms of time, quality, sustainability and cost. Through the application of appropriate management techniques, and the information provided from Phase 1 of the in the Program Plan, the Project Manager will lead and manage the efforts of the Project Team to achieve the objectives of the Project to meet HOL requirements.

The following is the scope of project management services the Consultant is expected to supply, **but not limited to:**

Planning

- Define the requirements of the Project, including scope, quality and overall budget and schedule of work
- Complete the Project Charter, prepare and maintain a Work Breakdown Structure (WBS) and a Project Implementation Plan
- Assign a Designated Project Manager to be the main contact
- Identify the Project organization required to deliver the Project. Identify the interface and contact with HOL
- Establish protocol for all communication issues throughout the Project
- Prepare Project policies and procedures to be distributed to all team members
- Structure the Project into manageable sub-entities

Design

- Assist in the pre-qualification phase and make recommendations with respect to the selection of consultants and contractors
- Assist in retaining the appropriate consultant services to proceed with the Project initiation phase and for subsequent phases
- Prepare and assemble the tender package(s) for the consulting service.
- Manage the design for conformity with the agreed Project requirements and budget, and administer design changes
- Coordinate Designer involvement with all designated engineering consultants

- Co-ordinate with the Designer and Furniture Dealer, furniture solutions for private office areas, reception, boardroom, meeting rooms, seating, filing, racking, etc. as required to compliment and/or replace existing furniture
- Prepare a Risk Management Plan, and identify to HOL the impact (time, quality, cost) of proposed changes, so that the HOL may make well-informed decisions to proceed with the proposed changes
- Provide leadership and manage the development of opportunities in the area of integrated/sustainable design.
- Prepare and assemble the tender package(s) for the construction.
- Arrange and Chair pre-tender site meeting(s) with contractors
- Assist in the awarding of the contract

Construction

- Manage the application for and receipt of all necessary building permits and approvals by authorities having jurisdiction
- Ensure that Letters of Intent and draft Construction Contract documentation for execution are issued to successful bidders
- Ensure that insurance, WSIB clearance, MOL and MOE forms are received
- Review, evaluate and track the effect on Project costs and on the completion date due to client initiated changes and unanticipated site conditions
- Establish construction quality assurance programs
- Attend regular construction site meetings to monitor construction and ensure that all issues are addressed promptly
- Chair regular project meetings with stakeholders and provide Minutes
- Carry out interim site inspections and report as necessary
- Arrange and coordinate the procurement, expediting and quality control of all required materials, equipment and services, including those supplied by HOL
- Co-ordinate the review of all shop drawings as prepared by sub-trades
- Review and report on the preliminary Project estimates and schedules, establish a definitive budget for cost control purposes, prescribe a system of reporting and controlling expenditures and prepare cash flow projections

- Provide HOL with written reports on a monthly basis, including budget, utilized to date and projected cost relative to the budget, progress, quality and issues.
- Manage construction implementation for conformity with the approved Design, including detailed scheduling and coordination, management of inspection, administration of construction changes, approvals of progress claims, completion certificates, management of deficiency and warranty work, commissioning, operating manuals and record documentation.
- Co-ordinate the Furniture Delivery and Installation Schedule in conjunction with a Relocation Schedule and Master Plan
- Co-ordinate installation of voice/data cabling and power into systems furniture and arrange all necessary connectivity testing
- Administer the Certificate of Substantial Completion of the construction manager and ensure certificate is published
- Facilitate final Municipal approvals and inspections, including procurement of an Occupancy Permit

Furniture, Fixtures & Equipment

- Assist in the budgeting of alternative, new or reusable furniture or a combination and provide recommendations, based on approved budget
- Visit showrooms with HOL representatives
- Co-ordinate the planning of the furniture with the Furniture Dealer, electrical and communications consultants
- Co-ordinate with electrical, mechanical and communication engineers so that they have a clear understanding of the selected furniture's electrical harness requirements and location of power poles, induction units, etc. to avoid any interference with building components
- Develop with HOL and the Designer a guideline for reuse and/or disposal of existing furniture
- Review prepared furniture plan by the Designer for move and installation purposes
- Co-ordinate preparation of furniture installation drawings by the Furniture Dealer in conjunction with the Designer's furniture re-use plans
- Monitor installation and prepare/coordinate a detailed Installation Deficiency List with the Furniture Dealer

Move Support

- In conjunction with the Project Team, develop a Responsibility Matrix, identifying tasks, move sequences, phasing and team member involvement
- Prepare a Move Checklist
- Identify preferred companies to provide necessary services
- Prepare an RFP and solicit fee quotes for moving services
- Analyze tenders and make recommendations to HOL
- Inform staff of expectations and responsibilities regarding the move
- Provide “Move Instruction Kit” to all occupants being moved
- Schedule the installation of telecommunication equipment through the IT Division of HOL
- Provide onsite presence during all moves
- Ensure that all relocated equipment and services are fully operational

Project Close Out

- Assist HOL in start-up and or operating procedures
- Assemble and review all necessary project close out information; statutory declarations, warranties, as-built drawings, manuals, etc.
- Advise on timing of final payment and release of holdback monies
- Attend the new site during the first day after the moves to provide assistance where needed
- Conduct “walk through” and issue a final deficiency report after each move
- Follow up with the Furniture Dealer on rectification of deficiencies

Proposed Project Schedule

For illustrative purposes, HOL has outlined the following preliminary project milestones:

Stage 1: Program Management Plan

Stage 2: Site Acquisition

Stage 3: Implementation (Design, Construction, Relocate)

Hydro Ottawa Central Office	Date
Program Management Plan	June 2010 – October 2010
Site Acquisition	2011
Design/Approvals	2012
Construction	2013/2014
Relocate	October 2014
East Ops Centre	
Program Management Plan	June 2010 – October 2010
Site Acquisition	2011
Design/Approvals	2011
Construction	2012
Relocate	October 2012

South Ops/Fleet Centre	
Program Management Plan	June 2010 – October 2010
Site Acquisition	2012
Design/Approvals	2012
Construction	2012/2013
Relocate	October 2013
Warehouse Facility	
Program Management Plan	June 2010 – October 2010
Site Acquisition	2013
Design/Approvals	2013/2014
Construction	2014
Relocate	November 2014

RFP SCHEDULE B - COST SUMMARY SHEET	
RFP:	017-10
DESCRIPTION:	Project Management Services
BIDDER:	
PRICE (Canadian \$):	See Following Pages
SIGNED:	
DATE:	
THIS SHEET MUST BE COMPLETED BY BIDDERS, OTHERWISE SUBMISSIONS WILL NOT BE VALID.	



Project A: Program Management Plan

**Include: New Central Office Building, East Operations Centre,
South Operations/Fleet Centre, Warehouse/Meter Shop**

Position	Level of Effort	Hourly Rate	Total Cost Per Position
Total			

Expenses	Amount in Dollars
Travel and Living	
Other Disbursements (detail below)	

Total (including expenses): _____



FEE PROPOSAL

Project 1: New Central Office Building (Design - Build Process)

Position	Level of Effort	Hourly Rate	Total Cost Per Position
Total			

Expenses	Amount in Dollars
Travel and Living	
Other Disbursements (detail below)	

Total (including expenses): _____



FEE PROPOSAL

Project 2: East Operation Centre (Design - Build Process)

Position	Level of Effort	Hourly Rate	Total Cost Per Position
Total			

Expenses	Amount in Dollars
Travel and Living	
Other Disbursements (detail below)	

Total (including expenses): _____



FEE PROPOSAL

Project 3: South Operation/Fleet Centre (Design - Build Process)

Position	Level of Effort	Hourly Rate	Total Cost Per Position
Total			

Expenses	Amount in Dollars
Travel and Living	
Other Disbursements (detail below)	

Total (including expenses): _____



FEE PROPOSAL

Project 4: Warehouse /Meter Shop (Design - Build Process)

Position	Level of Effort	Hourly Rate	Total Cost Per Position
Total			

Expenses	Amount in Dollars
Travel and Living	
Other Disbursements (detail below)	

Total (including expenses): _____

FEE PROPOSAL SUMMARY (Design - Build Process)

PROJECTS	TOTAL COST
Project A	
Project 1	
Project 2	
Project 3	
Project 4	
GRAND TOTAL	



Fee Proposal

Project 1: New Central Office Building (Design - Bid - Build Process)

Position	Level of Effort	Hourly Rate	Total Cost Per Position
Total			

Expenses	Amount in Dollars
Travel and Living	
Other Disbursements (detail below)	

Total (including expenses): _____





FEE PROPOSAL

Project 2: East Operation Centre (Design - Bid - Build Process)

Position	Level of Effort	Hourly Rate	Total Cost Per Position
Total			

Expenses	Amount in Dollars
Travel and Living	
Other Disbursements (detail below)	

Total (including expenses): _____



FEE PROPOSAL

Project 3: South Operation/Fleet Centre (Design - Bid - Build Process)

Position	Level of Effort	Hourly Rate	Total Cost Per Position
Total			

Expenses	Amount in Dollars
Travel and Living	
Other Disbursements (detail below)	

Total (including expenses): _____



FEE PROPOSAL

Project 4: Warehouse /Meter Shop (Design - Bid - Build Process)

Position	Level of Effort	Hourly Rate	Total Cost Per Position
Total			

Expenses	Amount in Dollars
Travel and Living	
Other Disbursements (detail below)	

Total (including expenses): _____



FEE PROPOSAL SUMMARY (Design - Bid - Build Process)

PROJECTS	TOTAL COST
Project A	
Project 1	
Project 2	
Project 3	
Project 4	
GRAND TOTAL	



RFP 017-10 Schedule C - Proposal Signature Form

Bidder's Name: _____

Address: _____

Telephone No.: _____

Email Address: _____

The undersigned declare(s) that:

1. He / She/ They have the authority to submit this proposal and to bind the Bidder herein named to perform as per the Bidder's proposal if the Bidder is awarded the Contract by Hydro Ottawa.
2. He/She/They have not had access to any confidential information that may have provided an unfair competitive advantage relative to this acquisition.
3. All statements, specifications, data, confirmations, and information that have been set out in the Bidder's proposal are accurate and complete.
4. The Bidder's proposal is valid, irrevocable, and open for acceptance until 5:00 pm on the ninetieth (90th) day after the Closing Date.
5. The Bidder has reviewed Part 2, Terms and Conditions, of the RFP and the Schedules attached thereto and agrees to be bound by the same if the Bidder is awarded the Contract by Hydro Ottawa.

Name: _____ Signature: _____

Title: _____

Date: _____

Witness Name: _____ Witness Signature: _____

Title: _____

Date: _____



RFP 017-10 Project Management Services

Schedule D - Proposal Format and Evaluation

Evaluation and Selection

Proposals will be evaluated in accordance with the criteria contained in the table below.

Proposal	Maximum Score
Corporate History	5%
Project Charter	15%
Work Breakdown Structure	15%
Project Management Team	15%
Sustainable Design Construction	5%
Fee Proposal*	30%
Interview	15%
Total	100%

* The lowest Fee Proposal will receive a score of 30% and all other Proposals will receive a score that is prorated against the lowest Fee Proposal. ***Please note that proposals that do not score a minimum of 39 out of 55 (70%) on the points-rated requirements excluding Fee Proposal and Interviews will not be considered for Evaluation Phase 2.***

EVALUATION PHASE 1

PROPOSAL FORMAT

Corporate History

The Contractor should provide a brief description to a maximum of two pages total covering the following items:

1. Number of years in business
2. Affiliated companies, parent company
3. Corporate status
4. Private or publicly traded

Confidential and Proprietary

5. Financial Metrics for the past three years (revenues, gross profit margin, debt to equity ratio, current ratio)
6. Number of employees (salaried – non salaried) with education and experience summaries (relevant to the work described in Schedule A – Statement of Work)
7. Location and size of offices and facilities
8. Address of head office, telephone, and fax numbers, e-mail address

Provide an organization chart (excluded from the two pages) showing the inter-relationship of the disciplines within your company including the average years of experience in place to support the Corporation

Preliminary Project Charter

Provide a written statement in the form of a preliminary Project Charter demonstrating the Project Manager's understanding of the project development environment, the Project Manager's role, the scope of work, project team and stakeholder working relationships.

Provide the following reference headings:

1. Project Delivery Methodology
2. Stakeholder/Project Team Roles and Relationships,
3. Collaboration and Communications Plan,
4. Schedule Control and Methodology,
5. Cost Control and Financial Management,
6. Design and Construction Procurement Plan,
7. Quality Management and Assurance Plan,
8. Risk Management, Identification and Mitigation.

Reference each of the above areas of your project Charter with examples of experience with an explanation of relevancy, application and comparable experience and/or complexity.

Confidential and Proprietary

Work Breakdown Structure (WBS)

Provide a Work Breakdown Structure appropriately developed for the Project utilizing the:

1. Design Build Process.
2. Design-Bid-Build Process

Also provide a work plan schedule, in a table or chart, which includes a breakdown of the major tasks (milestones) and the level of effort by individuals team member in sufficient detail as to allow a complete understanding as to how and whom the work is to be carried out.

Include two (2) WBS for above items 1 and 2 for each of the four (4) capital projects. (Schedule B - Cost Summary Sheet)

Project Management Team

Confirm the Lead Project Manager as well as the supporting individuals that will assume primary responsibility for the Project. Describe their role on the Project to support the project charter, the period/phase for which the individual is to be associated with the project, and the extent of the individual's time that will be devoted to the project during that period. The Project Managers should hold a current Project Management Professional (PMP) designation from the Project Management Institute or be a LEED Accredited Professional. (This will be considered an asset).

Provide the following reference headings:

1. Principal-in-Charge
2. Lead Project Manager
3. Assistant Project Manager
4. Construction/Commissioning Manager
5. Specialists, if any
6. Administrative Support Personnel

Based on the Preliminary Project Charter and the Work Breakdown Structure, provide a single Project Team Organization Chart illustrating the Project Management personnel noted above, the project stakeholder entities, design and construction organizations and other related project groups that are part of the project. Include curriculum vitae for all the major associates identified above.

Confidential and Proprietary

Comparable Project Experience and References:

List and briefly describe a maximum of three (3) relevant and closely comparable projects undertaken by your firm as a project manager. Indicate how the referenced projects relate to the scope. Include the initial budget, construction award value, final construction cost as well as estimated and actual completion dates, and the name of the assigned project manager. Describe the quality of the achieved results and how the project objectives were met. Provide names, addresses and telephone numbers of Client contacts for the projects listed and other references as required.

Sustainable Design and Construction

Provide evidence a formal corporate policy on Sustainability and how this policy is integrated into delivery of project management services to the benefit of the client.

Confirmation that the firm has provided project management services on LEED projects including guiding the client through the strategic consideration of the level of LEED certification to strive for and the procurement of the design team, specialty consultants and commissioning agents required to deliver LEED buildings.

Describe the procedures that are used to ensure best practices in design and construction are adhered to during project delivery to obtain sustainability goals.

EVALUATION PHASE 2

Fee Proposal

Provide a firm cost to complete each of the projects, including all professional fees and **Other Expenses**. Use Schedule B – Cost Summary Sheet that is attached for this purposes for both Design Build Process and Design-Bid-Build, and return with your submission. Submit a Fee Proposal and hourly rates as identified in your WBS. Include level of effort for each team member (position), hourly rate ending with a lump sum for each individual for duration of each project. Also provide a proposed payment schedule based on defined milestones or Deliverables. **The Fee Proposal (Schedule B - Cost Summary Sheet) is to be submitted in a separate sealed envelope.**

Confidential and Proprietary

Interviews

An interview of one hour's duration will be scheduled with each Bidder that meets the minimum required scoring of Evaluation Phase 1. Interviews will take place May 27th and 28th, 2010 at 3025 Albion Road. Bidders, including all proposed team members, will be invited to make a brief presentation on the project implementation after which open discussion will be encouraged.

Confidential and Proprietary



29 April 2010

ADDENDUM:

RFP	017-10	Project Management Services			
Addendum No.	1	Closing Date:	12 May 2010	Closing Time:	14:00 Local Time

Attention: Bidders

Please note the following amendment. In response to Bidder questions, we provide the following replies:

BIDDER QUESTION:	HYDRO OTTAWA RESPONSE
1) Can Hydro Ottawa please clarify what the decision making structure at Hydro Ottawa will be once this project is underway. For example, will the contracted project manager be working with and reporting to a project team, a steering committee or some other body?	The contracted project manager would report into the HOL Project Manager (Project Authority). The HOL PM would be supported by Project Teams /User Groups/Stakeholders etc. The contracted project manager would attend monthly status meetings to the Executive Steering Committee and the occasional Board Meeting.
2) On Page 19 of the statement of work you state that “the successful bidder will have to be prepared, from time to time, to act as an expert witness in regard to the Program Management Plan before the Ontario Energy Board”. Can you please clarify the required number of appearances, what those appearances will entail and at what stage during the project this would happen?	Hydro Ottawa is speculating that there may be such a requirement. For the purpose of this RFP we are making Bidders aware of the possibility and asking for their concurrence that they would accept this role should the need arise. We are interested in any experience that a Bidder may have in this realm, and want Bidders to understand that anything and everything they do may be scrutinized by the OEB at some point in this process. Should the need arise, coverage will be negotiated as an “extra”.
3) One page 20 of the statement of work you indicate that the successful bidder will “participate in the RFP process”. Procurement is a key component in project management but in this particular case the level of effort needed for procurement could vary greatly pending the outcome of the program management phase. Simply for the purpose of pricing in this RFP, would Hydro Ottawa be willing to quantify the number of RFP’s that would need to be developed over the course of the project. By setting these parameters, for the purpose of pricing, all proponents would be pricing to the same level of effort allowing Hydro Ottawa to receive comparable submissions.	Hydro Ottawa is relying on the expertise of the bidding companies and we would anticipate that they have an understanding of the activities, level of effort and number of RFP’s that would be needed to developed over the course of the project.

There are no further changes to **RFP 017-10** at this time.



05 May 2010

ADDENDUM:

RFP	017-10	Project Management Services			
Addendum No.	2	Closing Date:	12 May 2010	Closing Time:	14:00 Local Time

Attention: Bidders

Please note the following amendment. In response to Bidder questions, we provide the following replies:

BIDDER QUESTION:	HYDRO OTTAWA RESPONSE
<p>1) The RFP has a closing date of 2010-05-12 2:00 PM EDT; however, Part 1, Section 10, Closing Date has stated, "NO LATER THAN 2:00 PM Eastern Monday, May 12, 2010." May 12, 2010 is a Wednesday</p> <p>Would you please clarify the closing date?</p>	<p>The closing date for the RFP is Wednesday, May 12, 2010.</p>
<p>2) Due to the complexity of this RFP and the extent of work: Program Management Plan (design) and Project Management (execution) of four large, LEED required and independent projects under two scenarios: Design Build and Design Bid Build and the extent of work going to November 2010 (four years) would Hydro Ottawa consider an extension to the closing date?</p>	<p>After consideration, Hydro Ottawa is not offering an extension to the closing.</p>
<p>3) The RFP calls for two phases: Program Management (design) and Project Management (execution). Schedule B - Cost Summary Sheet has Project A: Program Management Plan but does not have a separate sheet for the Project Management phase.</p> <p>A) Is it the intent of Hydro Ottawa to have the Project Management component split into the four projects for both Design - Build Process and Design - Bid - Build Process?</p> <p>B) Is it the intent of Hydro Ottawa to award both the Program Management element and the Project Management element together to one successful proponent or would Hydro Ottawa split these two elements?</p>	<p>A) Hydro Ottawa's intent is to have the Project Management component split in the four projects for both the Design - Build and Design-Bid-Build processes</p> <p>B) It is Hydro Ottawa's intent to award both the Program and Project Management elements to one bidder. The juncture point of the two is considered an "off ramp" as described in the documentation.</p>

<p>4) Through either the Design Build or the Design Bid Build would it be the responsibility of the Proponent to retain the architecture, engineer, LEED and other consultants or would this be part of Hydro Ottawa Project Management and Procurement Office?</p>	<p>It would depend on the scenario but if these functions need to be engaged, HO would retain them. Proponents would be required to assist in the preparation of the RFP documentation for such engagements.</p>
<p>5) If the successful proponent's office can provide the additional consulting services through the design stages and or construction would the retention of this consulting service be deemed a conflict of interest?</p>	<p>Yes. As covered in 4. Above, all engagements will be secured through an RFP process.</p>
<p>6) What is Hydro Ottawa policy on Conflict of Interest?</p>	<p>The following is stated within Hydro Ottawa's Enterprise Procurement Policy (SUP-002.02):</p> <p>Supplier Related Conflict of Interest:</p> <p>As part of their response to an acquisition, suppliers will be asked to declare if they have any conflict of interest. Specifically, suppliers will be asked to declare if they have or have had access to any information about the requirement (confidential information) that may give them an unfair competitive advantage relative to the specific acquisition.</p>
<p>7) The level of detail in the response seems to be quite extensive in order to respond appropriately to the requirements of developing a preliminary project charter, multiple WBS's for the different approaches with an appropriate level of effort for each, multiple fee proposals and payment schedules etc. Would Hydro Ottawa consider a 2-week extension to provide bidders with the time to develop this level of detail?</p>	<p>See answer to question 2 above.</p>
<p>8) Schedule D pg 3 the statement "include two (2) WBS for above items 1 and 2 for each of the four (4) capital projects." Does this mean 2 copies of each WBS OR 2 WBS for each of the 4 projects – one (1) for design build approach and one (1) for design-bid-build approach?</p>	<p>Proponents are to provide one (1) WBS for a Design-Build and Design-Bid-Build for each of the capital projects (the latter of the two options in the question.)</p>

<p>9) The outline for the Preliminary Project Charter is more conducive to the Project Management and Construction/Acquisition component of the RFP. Can the response to Program Management be addressed separately from the Preliminary Charter section of the technical portion of the overall response?</p>	<p>Yes. The Program Management Plan can be addressed separately from the Preliminary Charter.</p>
<p>10) Is there an overall maximum restriction on number of pages, font size/type, size of paper (i.e can 11x17 be used for WBS and org chart) and do larger pages count as more than 1 page if there are restrictions? If there is a max no. of pages, would a covering page, table of contents, covering letter and appendices (i.e. CV's) be excluded from that number?</p>	<p>There are no restrictions to the format of the Proponents submission in regards to this question.</p>
<p>11) The requirement for 5 signed copies and 1 electronic copy – is the electronic copy to be in CD format? Or is an email of the proposal considered acceptable as the electronic copy? Should the electronic copy be in pdf format?</p>	<p>An electronic copy in PDF format is acceptable if sent by email, however the size of the submission may not be conducive to this. A CD or memory stick may be more appropriate.</p>
<p>12) Could Hydro Ottawa Limited (HOL) please identify the overall program budget?</p>	<p>There is no budget, per se. Our planning numbers and scenarios are too speculative to be used as a basis for response to the RFP.</p>
<p>13) If the schedule is delayed by the real estate transaction process, are the move dates flexible, or will there have to be work-arounds?</p>	<p>Both options would have to be considered.</p>
<p>14) Are there any financial constraints or contractual limitations that would eliminate alternative approaches such as Design-Build or Developer build and lease?</p>	<p>No, but since hydro Ottawa operates in a regulatory environment, any approach must be acceptable from the regulator's perspective and must not be outside the regulatory model for a transaction of this nature.</p>
<p>15) Will HOL consider leasing facilities?</p>	<p>Yes but please refer to the constraints mentioned in #15 above</p>
<p>16) For the PMP: What is meant by "produce a PMP document to submit to the market"?</p>	<p>This document will specify our building requirements, which will be submitted to the Real Estate Community.</p>

<p>17) Within the RFP Hydro Ottawa has presented their proposed timelines for Acquisition / Design /Construction and Occupancy dates for various facilities.</p> <p>A) How much of this proposed timeline is tied directly to FY Capital planning cashflow?</p> <p>B) When does HO's FY run?</p> <p>C) Do the proponents have flexibility in advancing or delaying stages within various fiscal years?</p>	<p>A) None, at this point. When the actual PMP is created, year over year budgets will be set. There is a regulatory component which has to be acknowledged as having fairly fixed, year over year provisions. Deviations from projected spending can cause problems with the regulator and affect our cash flow.</p> <p>B) Hydro Ottawa's fiscal year runs Jan 1 to Dec 31.</p> <p>C) Yes there is this flexibility</p>
<p>18) Statement of Work PAGE1: There is mention of PM services in support of HOL and their RE Agent in site disposition of surplus properties. Given the nature and function of some of these properties, has the client conducted ESA work on their current facilities to identify risks / scope and costs associated with disposition? If not, is that to be a consideration of PM services in getting properties "market ready"? How are proponents to price this undefined scope within the Design-Bid-Build and Design-Build schedules?</p>	<p>The task of disposing of existing properties is not within the scope of the Design-Bid-Build and Design-Build schedules.</p>
<p>19) As per page 2 of RFP Schedule A - Statement of Work: Since HOL capital and costs must be kept separate from those of HOHI and Energy Ottawa, will the HQ costs be apportioned based on area, or will HOHI and Energy Ottawa be tenants of HOL?</p>	<p>Currently HOHI and EO are regarded as tenants.</p>

There are no further changes to **RFP 017-10** at this time.



05 May 2010

ADDENDUM:

RFP	017-10	Project Management Services			
Addendum No.	3	Closing Date:	12 May 2010	Closing Time:	14:00 Local Time

Attention: Bidders

Please note the following amendment. In response to Bidder questions, we provide the following replies:

BIDDER QUESTION:	HYDRO OTTAWA RESPONSE
1) Who will hold the contracts with the design consultancies, contractors and/or design/build proponents?	Hydro Ottawa will hold the contracts
2) Would the awarding of this contract to the lead consultant (or any sub-contractor of the lead consultant) preclude the award of related contracts to that consultant or sub-consultant? For example, if one of the sub-contractors for the Program Management Plan is an architectural firm, would that sub-contractor be precluded or limited (in any way) from bidding on or being awarded architectural consulting or design services related to the construction of the facilities? Similarly, if a sub-consultant is a comprehensive real estate services company, would the brokerage division of that company be precluded from bidding on or being awarded a brokerage contract (such as the brokerage of the acquisition or disposition of lands or buildings on Hydro Ottawa's behalf)? Similarly, would the appraisal division of that real estate services company be precluded from bidding on appraisals, if and as required?	Proponents would be required to assist in the preparation of the RFP documentation for such engagements.
3) What specific office and/or industrial occupancy / consolidation planning or strategy work has been completed to date, to what level of detail, by whom and when? Were any external consultants involved? If so, who?	The information provided in the SOW is reflective of level of detail; it was prepared internally in consultation with functional area management and internal subject matter experts over the past 10 months.
4) Has Hydro Ottawa addressed funding / financing options? How does Hydro Ottawa plan to finance the Project? Is Hydro Ottawa considering 3P options?	Hydro Ottawa has addressed the financing options, and there are a number of avenues available to us but we have not committed to any at the present time. We have not considered 3P options, but we would consider them if a sensible business case was presented.

BIDDER QUESTION:	HYDRO OTTAWA RESPONSE
<p>5) What extent of design and costing work does Hydro Ottawa envisage completing under the Phase One Program Management Plan, as distinct from the Phase Two Project Management?</p>	<p>Phase One - PMP document will specify our building requirements including costs. Phase Two is the execution of Phase One –Managing the overall design and construction.</p>
<p>6) When were each of the properties referred to in the RFP last appraised and by whom?</p>	<p>Appraisals of the properties were completed in January 2010 by a reputable firm specializing in this type of appraisal.</p>
<p>7) As this RFP is a MERX listing under the private opportunities list and proponents had to purchase the RFP Documents the MERX system does not provide a list of potential proponents who have taken the documents out. Would Hydro Ottawa make this list available to the proponents?</p>	<p>It is Hydro Ottawa’s practice not to reveal the names of the proponents.</p>
<p>8) On P. 10 of 31, Instructions and Conditions, Section 21 Evaluation Criteria Sub Section 4c), Hydro Ottawa has requested "similar assignments including a list of clients for whom services similar to those set out in Schedule A - Statement of Work have been provided in the last two years" As the duration of this project is for over four (4) years would Hydro Ottawa accept similar assignments that could go back four (4) years and not two (2) years?</p>	<p>This is acceptable</p>
<p>9) Part 1 Section 27 (3). Insurance “The Bidder must provide proof of Professional Liability insurance coverage in the amount of five million dollars (\$5,000,000) per occurrence....” Please confirm that this refers to Professional Errors and Omissions Insurance (EOI), and that it must be in place at the time of submission? Please confirm that Hydro Ottawa requires a copy of the company’s Certificate of Insurance to be included in the proposal confirming the \$5 Million coverage is in place?</p>	<p>Yes, this refers to EOI (or E&O). The insurance must be in place at time of contract award. Certificate of insurance should be provided at time of contract award.</p>
<p>10) Could Hydro Ottawa identify the names and roles of those on the evaluation committee for this RFP? Are there outside firms that will be part of the evaluation committee/process?</p>	<p>The team is composed of members of Hydro Ottawa’s Finance, Legal, Facilities and Procurement Departments. No outside firms are part of the team or the process.</p>

There are no further changes to **RFP 017-10** at this time.



10 May 2010

ADDENDUM:

RFP	017-10	Project Management Services			
Addendum No.	4	Closing Date:	19 May 2010	Closing Time:	14:00 Local Time

Attention: Bidders

Please note the following amendment. In response to Bidder questions, we provide the following replies:

BIDDER QUESTION:	HYDRO OTTAWA RESPONSE
<p>1) In addendum 3, question #2 asked about proponent team member's eligibility for participation in other projects and mandates which would stem from the scope of this RFPs work. Your answer is not clear to us. We there respectfully ask the following questions:</p> <p>Q1) Our team will consist of project managers, architects, engineers, and real-estate brokerage firms.</p> <p>Should we become successful, would our architects and engineers become rendered ineligible for participating as potential prime consultants for Phase 2 of your plan?</p> <p>Should we become successful, would our real-estate brokerage become ineligible to participate in the brokerage contract for the sale and/or acquisition of lands or buildings stemming from this mandate?</p>	<p>The successful Bidder of this RFP will not be eligible to bid on Phase 2 RFPs. Whether "Related Parties" to the successful bidder are eligible will have to be determined on a case by case basis. Our fundamental concern is that there is sufficient arms length relationship in evidence so that there is no element of bias to what will be intended as a competitive process.</p>
<p>2) Due to the complexity of the RFP we respectfully request a one week extension of time to RFPs submission date and time.</p>	<p>Please see table below</p>

In response to Bidder requests, we are extending the closing date. The revised closing date for submissions is now **Wednesday, 21 May 2010 at 14:00 Local Time.**

	Original Date	Amended Date
Last Date for Requests for Clarification	May 7 (2pm)	May 14 (2pm)
Closing Date for Proposals	May 12 (2pm)	May 19 (2pm)
Bidder Interviews	May 27 / 28	June 9 / 10
Award Contract	June 11	June 30

There are no further changes to **RFP 017-10** at this time.



10 May 2010

ADDENDUM:

RFP	017-10	Project Management Services			
Addendum No.	5	Closing Date:	19 May 2010	Closing Time:	14:00 Local Time

Attention: Bidders

There was an error in a section of Addendum 4 with respect to the closing date.

The closing date for submissions is now **Wednesday, 19 May 2010 at 14:00 Local Time.**

	Original Date	Amended Date
Last Date for Requests for Clarification	May 7 (2pm)	May 14 (2pm)
Closing Date for Proposals	May 12 (2pm)	May 19 (2pm)
Bidder Interviews	May 27 / 28	June 9 / 10
Award Contract	June 11	June 30

There are no further changes to **RFP 017-10** at this time.



14 May 2010

ADDENDUM:

RFP	017-10	Project Management Services			
Addendum No.	6	Closing Date:	19 May 2010	Closing Time:	14:00 Local Time

Attention: Bidders

The deadline for submissions of questions has now passed.

Please note the following amendment. In response to Bidder questions, we provide the following replies:

BIDDER QUESTION:	HYDRO OTTAWA RESPONSE
1) The scoring criteria table that will be used for evaluating proposal submissions is provided in Schedule D. It lists the various factors and the weight of each factor and adds up to 100%. The following section "Proposal Format" identifies the prescribed layout of the RFP and follows the scoring matrix almost exactly with one key exception. The proposal format section asks submissions to include a section for Comparable Project Experience and References. However, it is not included in the scoring criteria table. Is this an oversight? Are you asking for this information as background information that will not form part of the evaluation? Please clarify	Comparable Project Experience and References will be scored as part of the Project Management Team score of 15%. We should have been clearer in this.
2) Can HOL confirm if a real estate broker has already been retained? If so, how does HOL intend to do this and when?	HOL currently has retained a broker.
3) Could HOL please provide details of the current organization structure, number of business units and number of staff in each business unit?	Information on Hydro Ottawa's Board of Directors and Management Team can be found at www.hydroottawa.com . We do not have a current organization chart readily available, but will endeavour to provide one prior to the closing of the RFP.
4) What feasibility analysis or business case development has been undertaken to date? Are there any existing reports or analysis that will be available to the successful bidder? If so, what do these reports cover?	A study was conducted and was sufficient to secure Board approval to proceed with this project. The reports covered Financial, Surplus Property Appraisals, Preliminary Site Identification and Detailed Background Data. These reports will be available to the successful bidder.

BIDDER QUESTION:	HYDRO OTTAWA RESPONSE
5) Does HOL have a functional program completed or is the bidder expected to develop a functional program?	In our view this data would be an integral part of the Phase 1 – Program Management Plan. How this data is assimilated into the plan is at the bidders' discretion.
6) Page 19 of the Statement of Work references interviews to be conducted. How many interviews are needed? Can you provide an organization chart so that the bidder can correctly estimate this?	As stated in #3 above, we are working on an organization chart. With respect to the "interviews", Bidders should make this determination and reflect this activity in their Program Plan.
7) Is the bidder expected to have urban planning skills within the team?	Bidders will have to make this determination based on the scenarios presented in the SOW.
8) What exactly are the constraints and drivers to the timetable included in the RFP? HOL's answer to Q17 of Addendum #2 indicates flexibility exists <u>within</u> fiscal years, but does this same flexibility apply to (a) movement of transactions and occupancy <u>between</u> fiscal years, and (b) the priority (order) of facilities addressed? Answers to this question can have significant impact to the strategy for procurement of design services, design-build services and on the cost of Project Management services.	The Statement of Work depicts our desired timetable and the sequencing of events. Any elements of this plan that are identified during the generation of the program plan as not tenable would be subject to adjustment.

The closing date for submissions is **Wednesday, 19 May 2010 at 14:00 Local Time.**

There are no further changes to **RFP 017-10** at this time.



18 May 2010

ADDENDUM:

RFP	017-10	Project Management Services			
Addendum No.	7	Closing Date:	19 May 2010	Closing Time:	14:00 Local Time

Attention: Bidders

The deadline for submissions of questions has now passed.

Please note the following amendment. In response to Bidder questions, we provide the following replies:

BIDDER QUESTION:	HYDRO OTTAWA RESPONSE
1) Could HOL please provide details of the current organization structure, number of business units and number of staff in each business unit?	Information on Hydro Ottawa's Board of Directors and Management Team can be found at www.hydroottawa.com . We do not have a current organization chart readily available, but will endeavour to provide one prior to the closing of the RFP.

With respect to Hydro Ottawa's organizational structure, due to its confidential nature we will not be providing the document at this time. The requirement and provision of such a document will be discussed with the Successful Bidder as part of the Contract Award.

The closing date for submissions is **Wednesday, 19 May 2010 at 14:00 Local Time.**

There are no further changes to **RFP 017-10** at this time.



1 **Interrogatory**

2 QUESTION #14

3

4 [Ex. D1/4/2] With respect to Vegetation Management:

5

6 a. Please provide a detailed table for each of 2008, 2009, 2010 and 2011 showing the
7 costs of vegetation management, broken down by function and broken down into
8 costs paid to third parties and costs of internal personnel and resources.

9

10 b. P. 2. Please provide a copy of the National Capital Commission guidelines referred
11 to, and estimate the incremental cost of vegetation management necessary to
12 comply with those guidelines.

13

14 c. P. 4. Please provide an explanation of Figure 3, and quantify (in revenue
15 requirement terms) the proposed cost advantage associated with faster tree
16 trimming.

17

18 d. P. 5. Please confirm that older and larger trees tend to grow more slowly, and so in
19 areas of old growth less frequent tree trimming is usually required.

20

21 e. P. 6. Please explain why the two cost of service years in the table are higher than
22 the two IRM years.

23

24 **Response**

25

26 a) Breaking down the costs of vegetation management into costs paid to third parties
27 and costs of internal personnel and resources would reveal contracted prices with
28 Hydro Ottawa contractors, which Hydro Ottawa feels would be inappropriate.

29

30 Hydro Ottawa utilizes the services of an external contractor to perform the
31 scheduled trim cycles each year.



1 External contractors may also be engaged to assist in storm response when
2 significant tree removal or trimming work is required due to storm damage.

3

4 Hydro Ottawa's does incur internal costs for vegetation management for such items
5 as spot trimming, contractor management and quality inspection of the planned trim
6 cycle work.

7

8 b) The National Capital Commission guidelines referred to are not a single publication
9 issued by the National Capital Commission. The National Capital Commission was
10 referenced in the Exhibit as it is a significant land owner within the service area with
11 particular requirements regarding activities on and near its sites; it is one more layer
12 of government to work with than is present in other service areas. There is no
13 measureable, and at this time, no material extra cost for vegetation management
14 necessary related to working with the National Capital Commission.

15

16 c) Figure 3 shows three curves;

- 17 • the annual cost of trimming in dollars,
- 18 • the average cost of failures, in points, and
- 19 • the Total cost, a sum of the trimming costs and costs of failures

20

21 The annual cost of trimming is a real value which was based on evaluation of
22 trimming practices and costs.

23

24 The average cost of failures is expressed in points, based on outage occurrences.
25 The construction of this curve is outlined in Hydro Ottawa's Asset Management Plan,
26 Rev. 1, 2005-11-11, chapter Overhead Line Easements (attached to VECC #47).

27 The Total cost is not meant to be an absolute financial number, but rather an
28 indicator of the direct costs of the program.

29



1 The analysis presented in Figure 3 indicates that all other factors being the same,
2 Hydro Ottawa would experience cost savings by moving to a shorter trim cycle than
3 the previous 3-year, area-wide cycle.

4

5 Hydro Ottawa did adjust trim cycles in response to this analysis, however, only the
6 trim cycle in the core of the City of Ottawa was reduced to a 2-year cycle. At the
7 time the trim cycle was changed, adjustments were also made to the trim areas to
8 accommodate the new 2-year and 3-year programs and to level the workload of the
9 contractor each year to assist in reducing yearly cost variances, and a new tender
10 was issued for the contract resulting in revised pricing. As many changes occurred
11 when the new cycle was implemented, a clear picture of cost savings, or rather,
12 avoided costs, is not available.

13

14 Revenue requirements would decrease directly with vegetation management cost
15 savings.

16

17 d) It is true that different species of trees and their subsequent ages have different
18 growth rates. Growth rates can be affected by several factors including age,
19 genetics, soil conditions, weather patterns, placement of adjacent trees or structures
20 and human intervention (pruning, fertilization, etc.). Vertical growth and re-growth of
21 limbs and buds after pruning activities may follow different patterns with respect to
22 age. Hydro Ottawa's experience with tree trimming is that tree growth rates are
23 more impacted by the species of tree rather than the age of trees.

24

25 Hydro Ottawa has found that a geographical approach to trimming an area as
26 opposed to a random pattern of trimming based solely on growth rates is more cost
27 effective. Hydro Ottawa has verified that specific areas with a higher density of faster
28 growing species is best trimmed on a two year basis to avoid costly unscheduled
29 spot trims usually triggered by power outages. The trim areas and cycle years have
30 been divided to optimize tree trimming efficiency, and as such, have scheduled
31 specific areas on either a two or three year cycle.



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The City of Ottawa has run aggressive tree planting programs in recent years, rejuvenating the urban forest.

http://www.ottawa.ca/residents/healthy_lawns/forestry/index_en.html

e) The table has been expanded to include 2006 and 2007 actual expenditures on vegetation management.

The cost of service (“CoS”) years included in the revised table are 2006, 2008 and 2011, and the remaining years are Incentive Regulation Mechanism (“IRM”). Although 2008 (CoS) actual expenditures are higher than 2009 (IRM) actual expenditures, the 2008 (CoS) expenditures are lower than the 2007 (IRM) actual expenditures. Variances between past years expenditures are due to the varying size and nature of the trim areas scheduled each year, amount of emergency and off-cycle trimming required, internal labour and trucking rates, and contract rates.

The 2011 (CoS year) budget is \$50k, or 2% higher than the 2010 (IRM year) budget. This reasonable budget increase is due to a combination of yearly increases in labour costs and external contract costs.

The vegetation management budget and actual expenditures are based on operational requirements, not the occurrence of an IRM or CoS year.

Year	Expense \$000
2006 Actual	2,821
2007 Actual	3,247
2008 Actual	2,566
2009 Actual	2,160
2010 Budget	2,369
2011 Budget	2,419

24



1 **Interrogatory**

2

3 **QUESTION #15**

4

5 [Ex. D1/4/4] With respect to Customer Service Strategy Plan:

6

7 a. P. 1. Please provide any documents in the Applicant's possession relating to the
8 "best/leading practices", including but not limited to any internal reports or memos on
9 that issue.

10

11 b. P. 5. Please provide the amounts spent relating to each of the categories in Table 2
12 for each of 2008 and 2009, broken down into operating and capital spending.

13

14 c. P. 8. Please provide all estimates or analyses that have been done relating to the
15 "positive... financial returns" arising from of the CSSP.

16

17 **Response**

18

- 19 a) There are two documents attached that relate to "best/leading practices";
- 20 • Attachment 1 - Appendix C: Leading Practices Summaries, and
 - 21 • Attachment 2 – Customer Experience Management.

22

23 Appendix C: Leading Practices Summaries was produced in 2008 as part of the
24 exercise to formulate a customer service strategy specific to Hydro Ottawa. The
25 document was produced using the resources of Atfocus, a Toronto based consulting
26 firm specializing in customer service and PwC, a global consulting firm.

27

28 Sources used to compile Appendix C included the Atfocus 'Focus on Customer
29 Care Database' which lists thousands of customer service data points. The PwC
30 'Global Best Practices' database was also used to identify relevant best practices,



1 benchmarking, risks and controls, derived from in-depth market research and the
2 experience of PricewaterhouseCoopers professionals.

3

4 In addition, desk research relating to organizations and associations recognized as
5 models for exceptional customer care included;

- 6 • Malcolm Baldrige Award winners,
- 7 • American Customer Satisfaction Index, and
- 8 • National Quality Institute (NQI Canada) award winners.

9

10 Specific organizations taken into consideration included;

- 11 • Georgia Power
- 12 • Northeast Utilities
- 13 • Royal Bank (RBC)
- 14 • Rogers Communications Inc.
- 15 • MidAmerican Energy
- 16 • Energy Australia
- 17 • United Services Automobile Association (USAA)
- 18 • Ritz Carlton
- 19 • The Municipality of Coral Springs, Florida
- 20 • FedEx
- 21 • BAMA

22

23 In all, 15 dimensions used by customers to gauge customer service performance
24 were identified. Hydro Ottawa's performance on each of these dimensions was
25 assessed and for each dimension Leading Practices were identified. The 15
26 dimensions used were;

- 27 • Knowledge of Customer
- 28 • Complaint management
- 29 • Product and Service Focus
- 30 • Pre-Service Activity
- 31 • Service Standards



- 1 • Service Performance
- 2 • Accuracy and Completeness
- 3 • Service Quality
- 4 • Operational Efficiency
- 5 • Innovation
- 6 • Funding/Budget
- 7 • Perceived Value for Money
- 8 • Strategic Alignment
- 9 • Customer Involvement or Connectivity
- 10 • Communications

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The second document used in identifying ‘best/leading practices’ is entitled “Customer Experience Management”. This report was produced by Boston-based, *AberdeenGroup* in 2008. The report presents a roadmap for companies that have or are planning to establish customer enhancement management programs to achieve best-in-class performance through greater customer satisfaction and other factors.

It is interesting to note the report identifies ‘the need to increase customer satisfaction’ as the single largest driver of the need for customer enhancement management programs (58%).

The *AberdeenGroup* Report outlines specific customer service actions for organizations to take when implementing a customer enhancement management strategy as a means of improving overall performance.



1 b)

2

Table 1 – Yearly Expenditures

	Operating		Capital	
	2008	2009	2008	2009
Consulting support	\$50,000	\$150,000	\$0	\$0
Purchase IVR server – Telus MPS 500 server	\$0	\$0	\$180,293	\$0
IVR application	\$0	\$0	\$0	\$190,275

3

4 c) Hydro Ottawa Limited (“Hydro Ottawa”) did not estimate or analyse the financial
5 returns from improved customer service and employee engagement. The reason for
6 this is the inherent difficulty in trying to measure and attribute benefits that are often
7 viewed as intangible and/or indirect. Add to that complicating factors of attributing
8 benefits when multiple activities are been simultaneously underway and/or that
9 benefits may have some lag before they start to occur, makes measurement and
10 analysis a difficult task to perform with a high level of confidence.

11

12 That said, expert practitioners that work in the field of Customer Service, Customer
13 Care and Customer Experience Management (“CEM”) acknowledge that customer
14 service improvements and employee engagement do impact financial results and
15 that the impact can be quite significant and even strategic.

16

17 For example, the article (Attachment 2) on Customer Experience Management
18 indicates that 68% of best-in-class practitioners of CEM experience an 8%
19 improvement in year-over-year customer profitability (p.6).

20

21 Another example pointing to the importance of customer service is in Attachment 3,
22 “What’s A Customer Worth” that quotes management guru Tom Peters, “It boils
23 down to this. When you build a plant, it starts depreciating the day it opens. The
24 well-served customer, on the other hand, is an appreciating asset.”

25



1 The same article references a 2005 Standard and Poors study with the comment,
2 “satisfied customers are an asset in achieving favourable regulatory outcomes,
3 higher company valuations and, ultimately, higher stock prices.”
4

5 On the same page the article quotes UtiliPoint® International, Inc., a leading utility
6 industry analyst firm, in a white paper titled, The Changing Nature of Customer
7 Service.

8 “The key to improving customer service is optimizing the customer experience to
9 build loyal relationships. Customer loyalty is essential to profitability...”
10

11 In summary, Hydro Ottawa accepts conventional management wisdom that draws a
12 linkage between improved customer service, employee engagement, and improved
13 financial returns.

Appendix C: Leading Practices Summaries

Customer Service Strategy Report

Sources

Our research sources included:

- The AtFocus 'Focus on Customer Care Database'. The AtFocus proprietary Customer Care database lists thousands of customer service data points, allowing us to locate relevant customer service leading practices
- The PwC Global Best Practices database: The PwC Global Best Practices is a knowledge resource for relevant best practices, benchmarking, and risks and controls, derived from in-depth market research and the experience of PricewaterhouseCoopers professionals
- Desk research related to organizations and associations recognized as models for exceptional customer care which included:
 - Malcolm Baldrige Award winners
 - American Customer Satisfaction Index (Through University of Michigan) honourable mentions
 - National Quality Institute (NQI Canada) award winners

Organizations Considered

- Georgia Power
- Northeast Utilities
- Royal Bank (RBC)
- Rogers Communications Inc.
- MidAmerican Energy
- Energy Australia
- United Services Automobile Association (USAA)
- Ritz Carlton
- The Municipality of Coral Springs, Florida
- Fedex
- Bama

Customer Focus: Knowledge of Customer

- Leading Practices
 - Full customer information acquired on all customers daily, with access to this information throughout the organization
 - All information available/transparent and shared (with limitations possibly based on Privacy guidelines and protected through security protocols)
 - Single source as repository for all customer information
 - Information is both qualitative and quantitative in nature
 - Customer historical data is attached or linked to profile
 - Proactive engagement initiated by alerts set by decision rules engine
 - Periodic mining of data to identify trends
 - Common contact management system with regular cleansing of data to assure accuracy and relevancy

Customer Focus: Complaint Management

- Leading Practices
 - Have a full end-to-end complaint management system, tied to contact management system
 - Invites complaints and has standards in place for response time
 - All affected by complaint are informed
 - Process in place for corrective action
 - Aggregated complaint information used to drive positive/new decisions

Customer Focus: Product and Service Focus

- Leading Practices
 - Full end-to-end service for customers with "one stop shopping"
 - Differentiated service levels established from which to choose from
 - Immediate understanding for all customer service requirements or leverages data and knowledge to produce situation-specific service offers that correspond very closely with customer's needs
 - Offer a robust set of self-service functionality over multiple media, with personal help easily accessible upon request
 - Migrate customers to most appropriate self help offering
 - Personalized service delivered when appropriate
 - Data mining of data base to recognize trends and needs. These are identified and prioritized for investment

Service Focus: Pre-Service Activity

- Leading Practices
 - Single customer identifiers recognized by system, regardless of channel of entry by the customer
 - Customer information readily pre-populated, customer identified by "system" including relevant historical information
 - Database and/or repository exists for customer applications, contracts, SLAs
 - Service eligibility, terms and conditions automatically presented

Service Focus: Service Standards

- Leading Practices
 - Leading practice “Standards” in place. These would include standards with respect to:
 - Customer contact
 - Complaint management
 - Contact Centre metrics
 - Documented service standards, by specific service/customer and are achieved
 - Standards measured and accountability processes in place
 - Service standard defined through discussions with customer or at a minimum, feedback from customers

Service Focus: Service Performance

- Leading Practices
 - Service performance standards are well defined and surpass customer expectations
 - Training on service performance standards occurs regularly for new and current staff
 - Service performance standards are part of performance management process
 - Service performance against standards is continuously monitored
 - Customers regularly take part in assessing achieving of service performance standard

Service Focus: Accuracy and Completeness

- Leading Practices
 - Independent regular third party process in place to "audit" for accuracy and completeness with full integration to coaching, training, management
 - Proactive internal process in place to ensure accuracy & completeness
 - Accountability process in place for corrective action

Operational Focus: Service Quality

- Leading Practices
 - Independent regular third party process in place to "audit" for quality in Service Delivery, with full integration to coaching, training, management
 - Accountability process in place for corrective action

Operational Focus: Operational Efficiency

- Leading Practices
 - Full measurement process in place to evaluate ROI, efficiency and effectiveness
 - Continuous improvement engrained in the culture, supported through technology applications/systems
 - Engage in continuous improvement type activities

Operational Focus: Innovation

- Leading Practices
 - Data mining and trend analysis
 - Highest degree of innovation for provision of services
 - Invites collaboration with stakeholders in service innovation

Operational Focus: Funding/Budget

- Leading Practices
 - Fully automated funding/budget process
 - Funding/budget supported by predictive forecasting model
 - Automatic annual/quarterly review of results vs. plan with appropriate adjustments made and future predicted

Strategic Focus: Perceived Value for Money

- Leading Practices
 - Internal alignment: Full approval and support received demonstrating value for money achievement-
 - External alignment: Engage customer to ensure perceived Value for Money in the relationship
 - External Measurement tools in place, targets set, continuous internal benchmarking and sharing of best practices

Strategic Focus: Strategic Alignment

- Leading Practices
 - Fully aligned with Vision
 - Suppliers/providers aligned to Vision
 - Customer panels established to ensure ongoing alignment
 - Technology and other investment in line with strategic direction of stakeholders

Strategic Focus: Connectivity

- Leading Practices
 - Full connectivity in place for Stakeholders/Partner/Customer ... through Collaboration Portal
 - Annual process in place to determine satisfaction (Satisfiers and dissatisfiers) and 'trust' levels and ongoing feedback to influence change with full feedback loop in place
 - Employs rigorous processes to combine all information and experiences about each customer to ensure connectivity to the "real world"
 - Makes Stakeholders/ Partners/Customer an integral part of the service and product development process

Strategic Focus: Communications

- Leading Practices
 - Ability to communicate in multiple mediums with highly targeted/customization to specific groups/individuals
 - Electronic, real time communication maximized
 - Communication is measured for effectiveness
 - New concepts are tried and measured for effectiveness and ROI
 - Utilize systems and processes to coordinate communications and service across touch-points with all customers
 - Triggers in place to identify when enhanced communication is required

Customer Experience Management:

Is Your Entire Company Really Focused on the Customer?

August, 2008

David Boulanger

~ Underwritten, in Part, by ~



Executive Summary

Seventy-five percent (75%) of Best-in-Class Chief Marketing Officers (CMOs) are looking at Customer Experience Management (CEM) programs in 2008 to grow top-line revenue and bottom-line profitability in a challenging economic year. Aberdeen Group surveyed more than 190 companies to better understand the role that CEM programs play in relieving these pressures and to determine what strategic goals, capabilities, and technologies support these programs within a company. This report presents a roadmap for companies that either have, or are planning to establish, CEM programs to achieve Best-in-Class performance through greater customer satisfaction, increased numbers of profitable customers, and increased brand loyalty and brand worth.

Best-in-Class Performance

Aberdeen used three key performance criteria to distinguish the Best-in-Class from Industry Average and Laggard organizations. These Best-in-Class CEM programs achieved some impressive results:

- 90% year-over-year increase in customer retention
- 84% year-over-year increase in customer satisfaction
- 68% year-over-year increase in customer profitability

Competitive Maturity Assessment

Survey results show that the firms enjoying Best-in-Class performance shared several common characteristics, including:

- 67% of respondents regularly incorporate this into management decision-making
- 66% have centralized repositories of sales and customer data
- 53% have repositories of insight gleaned from customer interactions
- 53% perform a regular review of all customer-facing business processes

Required Actions

In addition to the specific recommendations in Chapter Three of this report, to achieve Best-in-Class performance companies must:

- Perform a periodic review of all customer-facing business process to maximize the customer experience and implement a series of continuous-improvement changes
- Implement an agreed-to set of metrics to measure customer satisfaction over time along with MBOs focused on enhanced customer experience at multiple levels in the organization
- Implement a series of enabling technologies including survey tools, a customer dashboard and an analytics platform that support a customer dashboard across sales, marketing, and customer service data

Research Benchmark

Aberdeen's Research Benchmarks provide an in-depth and comprehensive look into process, procedure, methodologies, and technologies with best practice identification and actionable recommendations

"Customer Experience Management – a multi-year Program designed to focus a company on providing the right touch to the right customer at the right time, every time."

~ Chief Experience Officer,
Fortune 200 CPG Company,
World-Class 250-year old
brand

Fast Facts:

- √ 75% of Best-in-Class companies have a program in place and 25% are planning to implement a program
- √ 60% of all companies surveyed have a program in place and 40% are planning to implement a program

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Chapter One: Benchmarking the Best-in-Class

Business Context

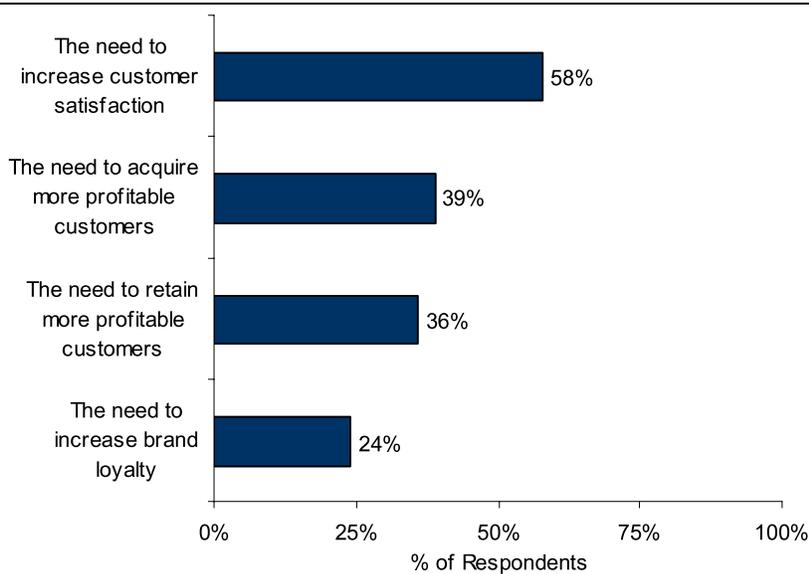
Customer Experience Management (CEM) programs examine the people, processes, organization, Key Performance Indicators (KPIs), and supporting technology to ensure that the company is focused on providing the right touch to the right customer at the right time, every time.

Stated another way, this report is designed to provide actionable advice to Chief Marketing Officers (CMOs) looking to implement influential programs over the next 24 to 30 months to drive greater customer intimacy and profitability.

In July and August 2008, Aberdeen surveyed 190 organizations to determine the impact of CEM programs on company performance in several critical business areas. Sixty percent (60%) of all customers had such a program in place while another 40% were planning to implement such a program. Seventy-five percent (75%) of Best-in-Class respondents indicate that CEM programs have been implemented at their companies.

CEM programs, once initiated, become multi-year programs with empowered executives, active line-of-business executives, and multi-year continuous-improvement project plans. In fact, 65% of these Best-in-Class companies have either empowered an existing executive or created a new role – Chief Experience Officer – to champion these multi-year CEM programs.

Figure 1: Top Two Pressures Driving Adoption of Customer Experience Management Programs



Source: Aberdeen Group, August 2008

Fast Facts - Top Pressures as Viewed by the Best-in-Class :

- ✓ 58% need to increase customer satisfaction
- ✓ 39% need to find profitable customers
- ✓ 36% need to grow existing customers profitably
- ✓ 24% want to increase brand loyalty

Fast Facts – CEM brings a new role for a company – the Chief Experience Officer

- ✓ 65% of Best-in-Class companies have either empowered a C-level Executive Champion or created a new executive role – Chief Experience Officer – to be the executive-level champion for multi-year CEM programs

Given current adoption levels and the explosion in the number of companies currently implementing CEM programs, it is vital to understand what factors drive these programs. Figure 1 shows that 58% of Best-in-Class companies indicate that enhancing customer satisfaction is the major pressure for these programs while the need to find (39%) and grow (36%) profitable customers were major secondary drivers. Twenty-four percent (24%) of these same companies saw increasing brand loyalty as a fourth benefit from implementation of a CEM program.

Companies have clearly indicated that they expect CEM programs to play a critical role in increasing customer satisfaction and finding and growing profitable customers to drive bottom-line profitability.

What has also made CEM initiatives more challenging from a customer perspective is that they typically “cut across” and leverage the work that has been performed across wide range of other CMO initiatives. CEM programs typically need to harmonize the results of, for example, sales analytics, salesforce automation, contact center and customer service, customer feedback, direct marketing, channel marketing, web 2.0, and social media marketing initiatives.

Thus, harmonizing the right external experience and internal behaviors to provide a consistent and correct customer touch across these initiatives has been a consistent challenge reported by CMOs.

What has also made CEM initiatives more challenging from a customer perspective is that they typically need to ‘cut across’ and harmonize the work that has been performed across wide range of other CMO initiatives...including sales analytics, salesforce automation, contact center and customer service, customer feedback direct marketing, channel marketing, web 2.0 and social media initiatives.

The Maturity Class Framework

Aberdeen used three key performance criteria to distinguish the Best-in-Class companies from Industry Average and Laggard organizations:

- Year-over-year change in performance in customer retention
- Year-over-year change in performance in customer satisfaction
- Year-over-year change in performance in customer profitability

Table 1 shows the differences among Best-in-Class, Industry Average, and Laggard companies across these three metrics.

Table 1: The Maturity Class Framework - Top Performers Earn Best-in-Class Status for Customer Experience Management

Definition of Maturity Class	Mean Class Performance
Best-in-Class: Top 20% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 90% improved year-over-year performance in customer retention; the average increase was 15% ▪ 84% improved year-over-year performance in customer satisfaction levels; the average increase was 19% ▪ 68% improved year-over-year customer profitability rates; the average increase was 8%

Fast Facts:

- ✓ 42% of Best-in-Class have had CEM programs in place for more than two years
- ✓ 18% have had CEM programs in place for more than 12 months but less than two years
- ✓ 15% have had CEM programs in place for less than 12 months
- ✓ 24% are planning CEM programs but have none in place currently

Definition of Maturity Class	Mean Class Performance
Industry Average: Middle 50% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 24% improved year-over-year performance in customer retention; the average increase was 1% ▪ 48% improved year-over-year performance in customer satisfaction levels; the average increase was 8% ▪ 33% improved year-over-year customer profitability rates; the average increase was 6%
Laggard: Bottom 30% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 0% improved year-over-year performance in customer retention; the average increase was 0% ▪ 9% improved year-over-year performance in customer satisfaction levels; the average increase was 3% ▪ 2% improved year-over-year customer profitability rates; average laggard profitability decreased 8%

Source: Aberdeen Group, August 2008

The Best-in-Class PACE Model

Aberdeen found that 75% of the Best-in-Class had a CEM program that they would categorize as successful; achieving these results requires looking at the Pressures, Actions, Capabilities and Enablers (PACE) these customers have put in place. While the complete list is fuller than that shown in Table 2, the top Best-in-Class PACE framework for these programs are highlighted.

Table 2: The Best-in-Class PACE Framework for CEM Initiatives

Pressures	Actions	Capabilities	Enablers
<ul style="list-style-type: none"> ▪ Need to increase customer satisfaction 	<ul style="list-style-type: none"> ▪ Provide a consistent superior customer experience across channels ▪ Instill organization-wide focus on customer service as competitive differentiator 	<ul style="list-style-type: none"> ▪ Executive-level “champions” for customer experience management initiative ▪ Formalized “on-boarding” and training program for all employees ▪ Creation of a customer dashboard with common metrics 	<ul style="list-style-type: none"> ▪ Customer survey tools ▪ Web content management solution ▪ Multi-mode integrated CRM platform ▪ Enterprise content management solution ▪ Integrated analytics platform across sales / marketing / customer service / contact center

Source: Aberdeen Group, August 2008

Best-in-Class Strategies

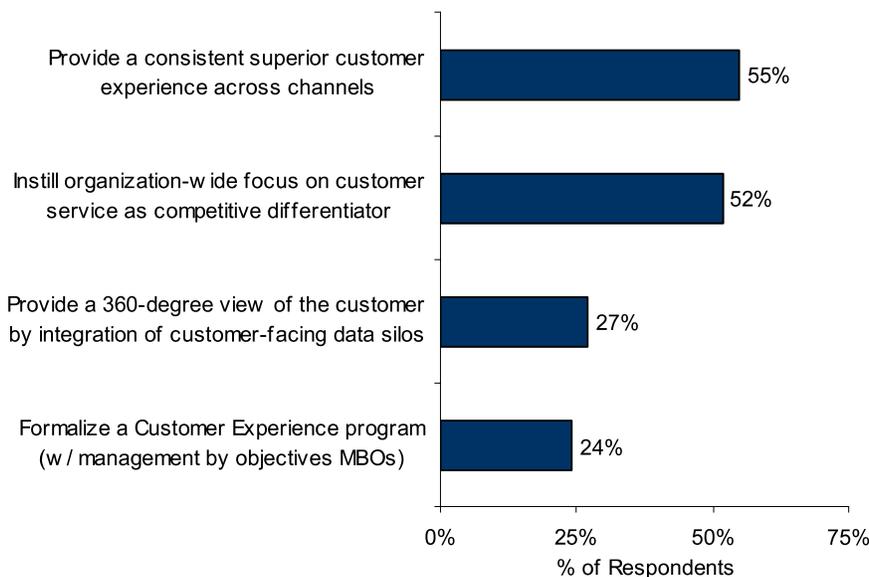
Figure 2 reveals the top three strategic actions Best-in-Class companies are taking as they implement CEM programs:

- Fifty-five percent (55%) are **driving to enable a consistent customer experience across customer channels**; enabling technology plays a significant role in terms of personalization

engines that adapt from prior customer experiences while providing a consistent cross-channel experience that predicts the next-best product or answer.

- Fifty-two percent (52%) are **using customer experience as a strategic differentiator in their strategic go-to-market plan.** Just as Best-in-Class companies have invested in state-of-the-art product, distribution, supply chain, branding, marketing, and other initiatives, they will also need to invest strategically in differentiating themselves from a customer service perspective.
- Twenty-seven percent (27%) **are enabling a 360-degree view of the customer** and utilizing analytics engines able to mine structured transactional and unstructured corporate data that can turn strategy into execution and provide actionable advice.

Figure 2: Top Two Best-in-Class Strategies to Success in Implementing a CEM Program



Source: Aberdeen Group, August 2008

Fast Facts

- ✓ 76% of the Best-in-Class indicate that a CEM program is a critical corporate priority
- ✓ 24% of the Best-in-Class indicate that a CEM program is a very important priority
- ✓ 24% of the Best-in-Class have rolled out a CEM program to all business units
- ✓ 40% of the Best-in-Class have rolled out a CEM program to most business units
- ✓ 20% of the Best-in-Class have rolled out a CEM program to some or a majority of major business units
- ✓ 16% of the Best-in-Class have rolled out a CEM program to a few business units

Challenges to Adoption

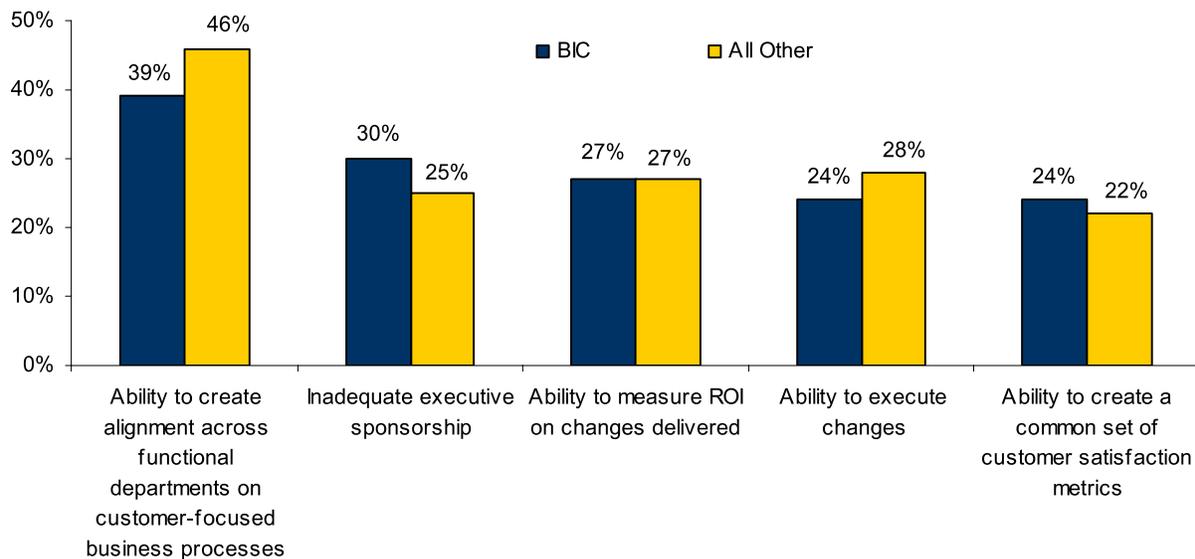
Obstacles must be overcome in order to effectively and efficiently implement a CEM program. Not surprisingly, the Aberdeen survey data found that challenges to implementing an effective CEM program involved business process, executive sponsorship, organizational and measurement issues. Figure 3 portrays the responses for both Best-in-Class and all other companies; while there are some differences, the challenges are very similar:

- The inability of departments within a company to come to agreement on common, outside-in customer-facing business

processes and then to execute these customer-centric business procedures

- Inadequate executive sponsorship of changes recommended by the CEM team; customer comments indicated having a respected C-level champion and respected D-level line-of-business champions were make-or-break success criteria
- The inability to come to agreement on a commonly-used set of metrics to drive performance over several years
- The inability to measure defined returns from these changes in process over time

Figure 3: Top Challenges to Implementing CEM Programs



Source: Aberdeen Group, August 2008

Aberdeen Insights — Strategy

Best-in-Class customers have approached the adoption of their CEM program as they have many other multi-year strategic initiatives: they have put the right committed respected internal champions on the project, established the right expectations and project plan and agreed to common metrics and return on investment criteria over time. They have found that once the project team makes a recommendation those changes need to be implemented quickly.

continued

Aberdeen Insights — Strategy

These companies approach this initiative as a continuous-improvement multi-year project where they implement a thousand small changes over time. In addition, because business challenges, partners, and customer relationships change over time, they have set the expectation that the CEM program will produce a series of changes over time.

Aberdeen benchmark survey data shows that 84% of all customers surveyed have implemented these programs with no external assistance (e.g., internally) but there is an entire group of CEM Management Consultants – in addition to some of the largest global systems integrators – who have established CEM programs for customers. Customer evidence also indicates – like choosing a partner for integrating ERP or CRM – that prior customer implementations and the amount of industry-specific business and business-process expertise they can add to the project is critical.

Although 16% of all customers have used these external management consultants, 24% of Best-in-Class have used these management consultants for tougher areas such as defining the organization structure and executive support for the program and driving agreement on common metrics for measurement of success.

In the next chapter, we will see what the top performers do to achieve these gains.

"The major challenges to implementing an effective CEM program were very similar to implementing an ERP system in the 90's and implementing a multi-mode CRM system in 2001: they revolve around putting in place respected executive and Line-of-Business champions, agreeing on the business process, agreeing on the metrics, and agreeing on the ROI.

And like any ERP, CRM or enterprise system, metrics and ROI need to be determined before project-start.

You also need to instill patience: you need to create the mind-set of a continuous-improvement multi-year journey instead a one-time big-bang approach. Sometimes benefits will be accretive over time."

~ Director of Marketing,
Diversified Fortune 200
Industrial Products Company

Chapter Two: Benchmarking Requirements for Success

Competitive Assessment

Aberdeen Group analyzed the aggregated metrics of surveyed companies to determine whether their performance ranks as Best-in-Class, Industry Average, or Laggard.

In addition to having common performance levels, each class also shares characteristics in five key categories:

- **Process** - the approaches they take to execute their daily operations
- **Organization** - corporate focus and collaboration among stakeholders
- **Knowledge management** - contextualizing data and exposing it to key stakeholders
- **Technology** - the selection of appropriate tools and effective deployment of those tools
- **Performance management** - the ability of the organization to measure their results to improve their business

These characteristics (identified in Table 3) serve as a guideline for best practices and correlate directly with Best-in-Class performance across the key metrics in Process, Organizational, Knowledge, Technology, and Performance dimensions.

Table 3: The Competitive Framework

	Best-in-Class	Average	Laggards
Process	Regular review of all business processes that touch the customer		
	53%	46%	22%
	Creation of a 'customer dashboard' with common metrics		
	42%	34%	19%
Organization	Empowered executives designed to drive CEM changes thru a multi-year plan		
	65%	53%	44%
	Customer-centric MBOs		
	45%	36%	24%
	Formalized "onboarding" and training program for all employees		
	61%	38%	24%

	Best-in-Class	Average	Laggards
Knowledge	Centralized repository of customer information		
	66%	51%	48%
	Centralized repository of sales and marketing information		
	56%	44%	30%
	Data repository of insights gleaned from customer information		
	53%	41%	27%
Technology	Technologies used to support customer experience management programs:		
	▪ 67% customer survey tools	▪ 61% customer survey tools	▪ 57% customer survey tools
	▪ 50% web content management	▪ 43% web content management	▪ 19% web content management
	▪ 47% multi-mode CRM system	▪ 38% multi-mode CRM system	▪ 34% multi-mode CRM system
	▪ 47% enterprise content management	▪ 36% enterprise content management	▪ 29% enterprise content management
	▪ 42% integrated analytics platform across sales / marketing / customer service / contact center	▪ 23% integrated analytics platform across sales / marketing / customer service / contact center	▪ 21% integrated analytics platform across sales / marketing / customer service / contact center
	▪ 37% internal search tools	▪ 35% internal search tools	▪ 30% internal search tools
	▪ 24% social media / web 2.0 technologies	▪ 12% social media / web 2.0 technologies	▪ 7% social media / web 2.0 technologies
▪ 27% integrated customer-specific personalization platform	▪ 14% integrated customer-specific personalization platform	▪ 11% integrated customer-specific personalization platform	
Performance	Measurement of commonly-defined metrics over multi-year timeline		
	38%	22%	15%

Source: Aberdeen Group, August 2008

But Best-in-Class is not simply defined in terms of an overall Competitive Framework; significant business capability, maturity adoption and technology capabilities frame Best-in-Class usage.

Best-in-Class Business Capabilities

Business capabilities that support the execution of a CEM Best-in-Class program fall into process, organization, knowledge, and performance dimensions:

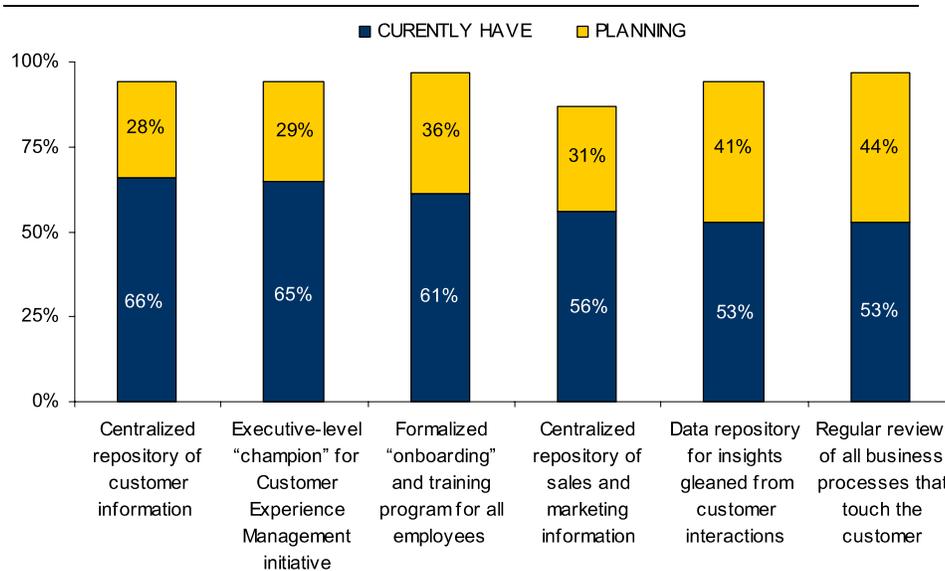
- From a process perspective, 53% of the Best-in-Class regularly review business processes from an outside-in customer-facing perspective and 42% have created a dashboard of commonly-agreed to metrics that define success. Most Best-in-Class, if not already performing these activities, will start these activities in the next 24 months.
- From an organization perspective, most (65%) have an executive-level champion to drive a multi-year program, most (61%) have created formalized training and on-boarding programs to familiarize employees with the goals of the CEM program, many (48%) have aligned performance goals between the line-of-business groups, and some (45%) have created MBOs at the executive, mid-manager, and individual performer level that include customer satisfaction, customer retention, and sales goals.
- From a knowledge perspective, many Best-in-Class have already created centralized repositories of customer information (66%) and 56% have created centralized repositories of sales and marketing information. Many (53%) have data repositories of insights gleaned from customer interactions but only a few (27%) have begun the integration of data from diverse channels with a 'personalization engine' designed to maximize the user experience. However, a full 67% plan to create this 'personalization engine' in the next 24 months.
- From a performance perspective, only a few (24%) have created a multi-year set of commonly-agreed-to metrics designed to assist executives in measuring and monitoring progress in customer satisfaction, retention, and profitability over a number of years but a substantial percentage (67%) of these Best-in-Class companies plan to have this in place in the next 24 months.

Figure 4 highlights the planned and future business capability adoption patterns for these Best-in-Class companies.

Fast Facts

- √ From a process perspective, 53% of the Best-in-Class perform continuous review of business processes and 42% have created customer dashboards of agreed-to metrics
- √ From an organization perspective, 65% of the Best-in-Class have a senior-level champion and committed directors to lead a multi-year CEM program and 61% have formalized training programs - 48% have aligned performance goals across lines of business and 45% have aligned performance goals (MBOs) to include customer satisfaction goals
- √ From a knowledge perspective, the Best-in-Class have already created centralized repositories of customer (66%), sales and marketing data (55%) and 53% have centralized repositories of insights gleaned from customer interactions - only 27% have created personalization engines for consistent customer interaction but many plan to over the next 24 months
- √ From a performance perspective, only 24% have a multi-year set of commonly-agreed to metrics designed to measure the progress of their CEM program over time, but a majority plan to in the next 24 months

Figure 4: Business Capabilities for Customer Experience Management Programs



Source: Aberdeen Group, August 2008

Enabling Technology: Essential for Effective Customer Experience Management

Aberdeen Group has found that companies which have a CEM program in place have implemented foundational, intermediate, and advanced technologies critical to the effective deployment of the program:

- Foundation technology.** Customers implementing CEM programs consider customer survey tools (66%), contact center software (61%), internal search tools (40%), knowledge management tools (38%) and enterprise content management tools (36%) as foundational technology components. Thirty-nine percent (39%) indicated they were using an integrated multi-mode CRM platform but did not indicate whether they were integrated to a number of additional enterprise systems such as ERP or SCM to deliver a 360-degree view of the customer.
- Intermediate technology.** Beyond the foundational technology come several enabling technologies which build on foundation technologies. Integrated analytics platforms across sales, marketing, customer service and contact center data were used by only 26% of all respondents but a telling 45% were looking to adopt this technology. In a similar manner, an integrated customer dashboard was used by only 34% of all respondents but a telling 55% are looking to adopt such a technology. These two technologies – integrated analytics across multiple business and process areas and an integrated customer dashboard – are critical to long term multi-

Fast Facts:

- ✓ 42% of the Best-in-Class are looking to adopt Integrated analytics platforms and 56% of the Best-in-Class are looking at integrated customer dashboards as critical technology components for long-term performance measurement of KPIs
- ✓ 48% of the Best-in-Class are examining predictive analytics tools to be able to mine past interactions to be able to predict future interactions
- ✓ 24% of the Best-in-Class have social media / web 2.0 tools in place and 30% are planning to implement such tools for more collaborative interactions especially with contact centers

year performance measurement for judging the health of CEM initiatives.

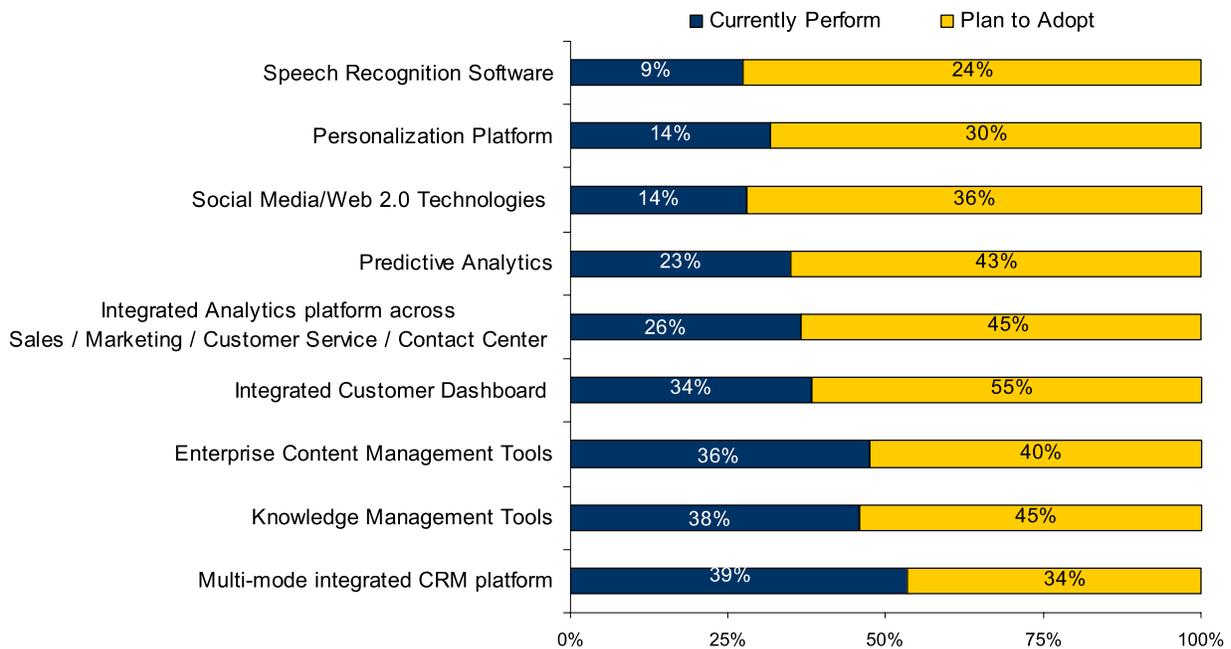
- **Advanced technology.** Predictive analytics tools were used by only 23% of survey respondents but a fairly substantial 43% will examine this technology for future usage. This technology component is an essential ingredient to be able to perform data mining of past interactions and be able to predict future customer behavior.
- **Social media / web 2.0.** A small number (14%) of survey respondents are using social media / web 2.0 technologies but another 36% are planning to adopt these tools. Only 14% of survey respondents are using personalization engines but a significant 30% are looking to explore this technology. Personalization engines are critical to the customer experience to ensure that no matter what channel the customer interacts thru their customer experience will always be consistent.

Fast Facts:

√ 27% of the Best-in-Class are looking at personalization engines to ensure a consistent customer experience no matter what channel the customer uses

Figure 5 highlights these current and future technology adoption patterns for these companies.

Figure 5: Technology Adoption for Customer Experience Management Programs



Source: Aberdeen Group, August 2008

Social Media / Web 2.0 Tools: A Best-in-Class Differentiator

Usage of social media / web 2.0 tools such as Wikis, blogs, social networking sites and other capabilities used by the Best-in-Class to enhance the customer experience is growing: of the 24% that are using such tools, 63% of these companies are using blogs while another 50% are using Wikis, discussion forums and online communities sites and 38% are using social networking sites.

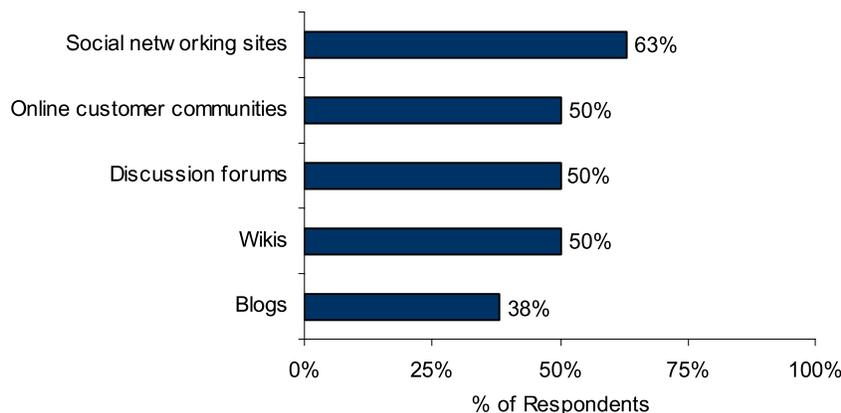
Customer evidence indicates that several leading-edge adopters across industries – including Proctor and Gamble, Frito-Lay, and USAA Insurance – have turned internal customer service websites and have repurposed them to be externally facing online communities.

Many allow customers to now enter comments onto these sites like any other blog; some will compensate bloggers for referrals to these online communities. These leading-edge companies are using these social media tools as a competitive differentiator similar to price and product quality.

There are now technology providers that will scan hundreds of thousands of blog entries and create an automatic alert if, for example, a product is mentioned negatively in a certain number of blog entries.

For Best-in-Class companies looking to implement social media / web 2.0 technologies into an effective CEM program and to reinforce the image of providing differentiating customer experiences, the question is ‘when’ and not ‘if.’ Figure 6 shows this social media / web 2.0 use by the Best-in-Class.

Figure 6: Best-in-Class Usage of Social Media / Web 2.0 Technology for Customer Experience Management Programs



Source: Aberdeen Group, August 2008

Case Study – The Journey to Customer Service as a Strategic Differentiator

This \$1.1B global ophthalmic medical device manufacturer with 4,000 worldwide employees operating in 60 companies became an independent company in 2002. With annual sales growth rates approaching 18%, this company acquired six companies in six years to become the global leader in producing equipment and consumables for clinics and physicians to support ophthalmic medical procedures.

However, this acquisition activity left them with seven sales forces and separate business processes. In many cases, these separate sales forces were calling on the same clinics and physicians and customer service was considered an expense and an afterthought.

“Customer Service was really an afterthought at the company – reps even got used chairs to sit in and they worked in the basement at our headquarters building,” said the Senior Vice President of Global Customer Services.

As a result of a strategic operations review in 2006 by the Board of Directors focused on finding ways to increase brand loyalty, increase market share, and open new markets and channels the company implemented a Customer Experience Management program.

Year one of the CEM program focused on implementing the basics: creating a core CEM team and identifying line-of-business champions, developing standard business processes, and agreeing to metrics to measure customer success. Most importantly, the team performed a detailed analysis of which customers were most profitable and which had the greatest growth prospects. For each group of customers, they also ascertained what the appropriate customer touches and levels of customer service should be.

From this baseline set of activities they put in place customer advocates for Tier One customers who visited those most-profitable doctors and clinics on a regular basis and dedicated customer service representatives for telephone inquiry.

The Senior Vice President of Global Customer Services continued, “From a technology perspective, we consolidated several instances of our solution to one, and implemented enterprise analytics to replace several point datastores for customer service, sales, and marketing data. We implemented a central repository of all customer service calls both phone and in-person. We also implemented a web-based portal for our Tier One and Tier Two doctors and clinics.”

continued

**Case Study –
The Journey to Customer Service as a Strategic Differentiator**

“Most importantly, customer service in the 2008 Strategic Plan became one of our top six strategic initiatives. As a result of that move my position (VP of Customer Service) became a Board-level participant and I was promoted to Senior VP,” said the SVP of Global Customer Services.

He summarized; “we make great products but at the end of the day we have customers and we have employees. Everything else is extra.”

The end result? – Sales have risen 22% year-over-year for the past three years. Profitability has increased 14% year-over-year and brand loyalty has increased to the point where even though there are two other strong competitors in the market, doctors and clinics will reach for their product first.

Chapter Three: Required Actions

Whether a company is trying to move its performance in implementing a CEM program from Laggard to Industry Average, or Industry Average to Best-in-Class, the following actions will help spur the necessary performance improvements:

Laggard Steps to Success

- **Put in place an organization designed to drive change.** Identify the respected and empowered champion able to drive people, process, performance, and technology changes in a multi-year program along with a committed and excited Director-level project team. Set the stage that CEM is a multi-year effort with continuous-improvement mindset. Best-in-Class companies are 47% more likely to have this organization in place to drive success (65% for Best-in-Class versus 44% for Laggards).
- **Put in place the foundational metrics for measurement, and plan for the dashboard.** Agree on the right small number of critical performance metrics which will drive performance over time for the program. The Best-in-Class were 121% more likely to have the dashboard in place to drive successful measurement of the program (42% for Best-in-Class versus 19% for Laggards). Even more telling, 56% of the Best-in-Class were examining dashboards as an enabling technology over the next 24 months.
- **Perform customer segment profitability analysis.** Perform segmentation of the customer base – usually based on sales and profitability and analyze the profitability of each segment. Best-in-Class companies were 47% more likely to perform this activity on a regular basis (60% for the Best-in-Class versus 41% for Laggards).
- **Ensure that MBOs related to customer satisfaction are in place.** MBOs need to be in place at the executive, mid-manager, and individual performer level that have customer satisfaction components. Again, the Best-in-Class were 87% more likely to have these goals in place to drive performance (45% for the Best-in-Class versus 24% for Laggards).
- **Perform ROI analysis for customer investments.** Once the customer base has been segmented to determine profitability per segment, implement ROI analysis for customer-facing investments. The Best-in-Class are 113% more likely to perform this analysis on a regular basis (64% for the Best-in-Class versus 30% for Laggards).
- **Create and implement a formal training program.** Formalized training and on-boarding programs need to be created and an execution plan developed for driving the change in mindset, the goals of the CEM program, and how their daily jobs will change.

Laggard Steps to Success:

- √ Put in place an organization designed to drive change; Best-in-Class are 47% more likely to have this in place
- √ Put the foundation measurement metrics in place; Best-in-Class are 121% more likely to have this in place
- √ Perform customer segment profitability; Best-in-Class are 47% more likely to have this in place
- √ Ensure MBOs related to customer satisfaction are in place; Best-in-Class are 87% more likely to have this in place
- √ Perform ROI analysis for customer investments; Best-in-Class are 113% more likely to have this in place
- √ Create a formal training program; Best-in-Class are 1554% more likely to have this in place

Best-in-Class are 154% more likely to have this formalized program in place (61% for the Best-in-Class versus 24% for Laggards).

Industry Average Steps to Success

- **Identify process changes with maximum impact.** Identify the specific business processes and customer segments where enhancing the business process and / or making investments in customer experience (for example, dedicated customer advocates) will provide additional value. Industry Average adopters are 109% more likely to perform this analysis on a regular basis (46% for Industry Average versus 22% for Laggards) and the Best-in-Class are 140% more likely to perform this activity.
- **Implement centralized repositories of customer, sales and marketing information.** 360-degree views of the customer essential for planning, executing, and measuring CEM programs require centralized repositories of customer, sales and marketing information. Industry Average companies are 46% more likely – and Best-in-Class 86% more likely – than their Laggard peers of having this information available.
- **Create a data repository of insights gleaned from customer service and other company activities.** As a precondition for performing speech analytics – and mining vast quantities of blogs, Wikis, and phone conversations with contact center employees to detect product, market, service, or other impacts to the business – centralized repositories of these types of information are essential. Industry Average companies are 46% more likely – and Best-in-Class 96% more likely – than their Laggard peers of having this information available for data mining.
- **Implement integrated analytics that support performance metrics.** Launch the integrated analytics platform across sales, marketing, customer service and contact center information to provide the baseline data and analytics that support agreed-to performance metrics around customer satisfaction, retention and profitability. Twenty-six percent (26%) of all respondents had an integrated analytics platform in place but 45% were looking to adopt this technology over the next 24 months and 42% of the Best-in-Class were looking to adopt an integrated analytics platform.
- **Integration with social media / web 2.0 tools.** Integration of web 2.0 capabilities such as blogs, Wikis, social network sites, and other technologies need to be integrated into baseline business processes redefined from an outside-in perspective. As reviewed in this report, 14% of all respondents but 24% of the Best-in-Class have these tools in place; and a full 36% are evaluating these tools over the next 24 months.

Industry Average Steps to Success:

- √ Identify process changes with maximum impact; Best-in-Class are 140% more likely to perform this activity
- √ Implement central repositories of customer, sales and marketing information; Best-in-Class are 86% more likely to have this enabler in place
- √ Create a data repository of customer insights; Best-in-Class are 96% more likely to have this enabler in place
- √ Implement cross-platform integrated analytics across sales, marketing, customer service and contact center information; 42% of Best-in-Class are looking to adopt this enabler in the next 24 months
- √ Implement social media / web 2.0 enablers to integrate structured and unstructured content into the business process; 36% of Best-in-Class are looking to adopt this enabler

Best-in-Class Steps to Success

- **Implementation of a personalization engine.** Personalization engines designed to provide a consistent customer experience, no matter what the channel, are essential for Best-in-Class performance. Best-in-Class are 145% more likely than their Industry Average counterparts to have such a technology in place; 27% have such a foundation in place and 28% are evaluating these tools in the next 24 months.
- **Predictive analytics / implementation of analytics for structured and unstructured data.** Predictive analytics looks at prior customer behavior and tries to predict future behavior, highly useful in industries like retail and consumer financial services to predict future behavior. Only 27% of Best-in-Class are using these technologies at present but 48% are evaluating these technologies over the next 24 months.
- **Analytics for structured and unstructured data.** Business intelligence and analytics technologies have for years been able to slice and dice massive rows of structured data; look for announcements from the major enterprise applications vendors of early adopter customer usage of latest versions designed to hold and mine both structured and unstructured data.

Best-in-Class Steps to Success:

- √ Evaluate a personalization engine to provide a consistent multi-channel customer experience; 28% of Best-in-Class will examine this enabler in the next 24 months
- √ Evaluate implementing analytics for structured and unstructured data; 48% of Best-in-Class will examine this enabler in the next 24 months
- √ Evaluate predictive analytics tools to better predict 'next-best' customer interaction; 48% of Best-in-Class will examine this enabler in the next 24 months

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Appendix A: Research Methodology

Between July and August 2008, Aberdeen examined the use, the experiences, and the intentions of 190 enterprises with regards to Customer Experience Management (CEM) programs at their companies.

Aberdeen supplemented this online survey effort with interviews with select survey respondents, gathering additional information on unified communications strategies, experiences, and results.

Responding enterprises include the following:

- *Job title / function:* The research sample includes respondents with the following job titles: EVP / SVP / Vice President (15%), Director (19%), and Manager (29%) from the following functional areas: marketing (23%), customer service (16%), business development (15%) and business process management (8%).
- *Industry:* The research sample includes respondents from financial services (12%), retail (10%), IT consulting / services (12%), and telecommunications services (10%)
- *Geography:* The majority of respondents (60%) are from North America. Remaining respondents are from the Asia-Pacific region (16%), Europe, Middle East, Africa (21%); and South Central America and Caribbean (3%).
- *Company size:* Thirty-one percent (31%) of respondents are from large enterprises (annual revenues above US \$1 billion); 25% are from mid-size enterprises (annual revenues between \$50 million and \$1 billion); and 44% of respondents are from small businesses (annual revenues of \$50 million or less).
- *Headcount:* Thirty-seven percent (37%) of respondents are from small enterprises (headcount between 1 and 100 employees); 26% are from midsize enterprises (headcount between 101 and 1000 employees); and 37% of respondents are from large businesses (headcount greater than 1,000 employees).

Solution providers recognized as sponsors were solicited after the fact and had no substantive influence on the direction of this report. Their sponsorship has made it possible for Aberdeen Group to make these findings available to readers at no charge.

Study Focus

Responding responsible customer experience executives (CMOs, CEOs, etc.) completed an online survey that included questions designed to determine the following:

- √ The current and planned utilization of CEM programs
- √ The benefits and challenges that have been derived from implementing CEM programs

The study aimed to identify emerging best practices for CEM programs, and to provide a framework by which readers could assess their own management capabilities.

Table 4: The PACE Framework Key

Overview
<p>Aberdeen applies a methodology to benchmark research that evaluates the business pressures, actions, capabilities, and enablers (PACE) that indicate corporate behavior in specific business processes. These terms are defined as follows:</p> <p>Pressures — external forces that impact an organization’s market position, competitiveness, or business operations (e.g., economic, political and regulatory, technology, changing customer preferences, competitive)</p> <p>Actions — the strategic approaches that an organization takes in response to industry pressures (e.g., align the corporate business model to leverage industry opportunities, such as product / service strategy, target markets, financial strategy, go-to-market, and sales strategy)</p> <p>Capabilities — the business process competencies required to execute corporate strategy (e.g., skilled people, brand, market positioning, viable products / services, ecosystem partners, financing)</p> <p>Enablers — the key functionality of technology solutions required to support the organization’s enabling business practices (e.g., development platform, applications, network connectivity, user interface, training and support, partner interfaces, data cleansing, and management)</p>

Source: Aberdeen Group, August 2008

Table 5: The Competitive Framework Key

Overview	
<p>The Aberdeen Competitive Framework defines enterprises as falling into one of the following three levels of practices and performance:</p> <p>Best-in-Class (20%) — Practices that are the best currently being employed and are significantly superior to the Industry Average, and result in the top industry performance.</p> <p>Industry Average (50%) — Practices that represent the average or norm, and result in average industry performance.</p> <p>Laggards (30%) — Practices that are significantly behind the average of the industry, and result in below average performance.</p>	<p>In the following categories:</p> <p>Process — What is the scope of process standardization? What is the efficiency and effectiveness of this process?</p> <p>Organization — How is your company currently organized to manage and optimize this particular process?</p> <p>Knowledge — What visibility do you have into key data and intelligence required to manage this process?</p> <p>Technology — What level of automation have you used to support this process? How is this automation integrated and aligned?</p> <p>Performance — What do you measure? How frequently? What’s your actual performance?</p>

Source: Aberdeen Group, August 2008

Table 6: The Relationship Between PACE and the Competitive Framework

PACE and the Competitive Framework – How They Interact
<p>Aberdeen research indicates that companies that identify the most influential pressures and take the most transformational and effective actions are most likely to achieve superior performance. The level of competitive performance that a company achieves is strongly determined by the PACE choices that they make and how well they execute those decisions.</p>

Source: Aberdeen Group, August 2008

Appendix B: Related Aberdeen Research

Related Aberdeen research that forms a companion or reference to this report includes:

- [Sales Analytics: Hitting the Forecast Bulls-Eye](#) – May, 2008
- [The CMO Strategic Agenda: Automating Closed Loop Marketing](#) – March, 2008; Ian Michaels
- [Mobile SFA: Empowering the 24x7 Road Warrior](#) – March, 2008; Peter Ostrow
- [CMO Strategic Agenda: Demystifying ROI in Marketing](#) – February, 2008; Ian Michaels
- [Social Media Monitoring and Analysis: Generating Consumer Insights from Online Conversation](#) – January, 2008; Jeff Zabin, Alex Jeffries

Information on these and any other Aberdeen publications can be found at www.Aberdeen.com

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What's a Customer Worth? Why Customer Lifetime Value Matters

By : Kay Fuhrman, Vice President – Business Development Utility Services, Alliance Data

In an August 2005 report issued by Standard & Poor's (S&P), it states there is a "fairly strong correlation" between customer satisfaction and a supportive utility regulatory environment – and possibly better credit quality. Titled "Customer Satisfaction Levels Can Affect U.S. Utility Credit Quality," S&P's internal study compared its opinion of a company's regulatory environment and the J.D. Power and Associates Customer Satisfaction Index (CSI). Simply stated, satisfied customers are an asset in achieving favorable regulatory outcomes, higher company valuations and, ultimately, higher stock prices.

Just as the tangible assets of plants, pipes and wires have value, a utility's customers possess a less tangible, but even more important, value. Handled with care, they don't depreciate. In fact, customers possess intrinsic financial value that utilities can leverage to achieve their goals in the marketplace. Tom Peters, famed author of *In Search of Excellence*, stated it this way: "It boils down to this. When you build a plant, it starts depreciating the day it opens. The well-served customer, on the other hand, is an appreciating asset."

The electric utility landscape is experiencing a sea of change – just where the waves will ultimately carry the industry is still an unknown. Regardless, most utilities realize that 21st century customers are a force to be reckoned with and an asset to be leveraged. These empowered, enlightened consumers demand more from their utility every year. The key is delivering service aligned with expectations in a cost-effective manner. But how much is it worth to the utility to give a customer the best possible service and maximize the value of the relationship?

Customer Lifetime Value – A Fundamental Concept

Faced with this dilemma, utilities are discovering what many other industries have understood for years – the concept of customer lifetime value (CLV). According to E Source, a division of Platt's, an energy information and services provider, "Growing recognition of the lifetime value of a customer relationship is raising the profile of customer care in the utility industry from an operations backwater to a key strategic asset."

While there are many variations on the definition, marketers tend to think of CLV as a metric that projects the total value of a customer over the entire history of that customer's relationship with a company. According to COLLOQUY, the loyalty-marketing publication, CLV is, at its root, a measure of the retention effect of a company's marketing efforts. In other words, if a company has a good understanding of a customer's current or potential value, and they exercise a marketing stimulus that keeps that customer from attriting, then the retention effect compounds over time-- the company not only retains the customer's spend during this period, but all future periods over the history of that customer's relationship. This compounding effect allows companies to understand the Net Present Value (NPV) of their marketing efforts. Inputs that typically allow them to calculate CLV are acquisition costs, churn rates, discount rates and retention costs. For yearly sales cycles, CLV scores are typically calculated three to seven years in the future; calculations any farther into the future are usually too speculative to be useful.

Beyond the Numbers: CLV as a Way of Doing Business However, CLV is more than a numbers game. It requires a new perspective on the way business is conducted.

UtiliPoint® International, Inc., a leading utility industry analyst firm, in a white paper titled "The Changing Nature of Customer Service", stated, "The key to improving customer service is optimizing the customer experience to build loyal relationships. Customer loyalty is essential to profitability, growth, and competitive differentiation."

"Utilities must match their service level to the needs, preferences, priorities – and lifetime value – of the customer they are serving." Further, according to UtiliPoint, "Effective customer service not only involves strengthening existing bonds, but it also means increasing business opportunities. The key to improving customer service is optimizing the customer experience to build loyal relationships. Customer loyalty is essential to profitability, growth, and competitive differentiation." For some utilities, this approach will require a major shift in perception, culture and approach. No longer are customers merely ratepayers or accounts – they are individuals who can increase the value of the utility merely by their positive opinion and

perception of the company.

As noted by Standard & Poor's report, J.D. Power examines five factors to measure customer satisfaction:

- Power quality and reliability
- Company image
- Price and value
- Billing and payment
- Customer service.

Taken together, these factors, if positively perceived by the customer, add value to the utility. As S&P states, "Although the trend toward competitive markets has stalled, of course, and even backtracked in some states, customer satisfaction still influences credit quality. Standard & Poor's believes happy customers may translate into a happier regulatory environment, and regulation is a highly important factor in ratings decisions."

We Are Not Alone: What Other Industries Already Know

Utility colleagues in the wireless telecom industry are keenly aware of the critical value of customer retention and loyalty. A report from Peppers & Rogers Group, entitled "What Every Exec Should Know About Customer Retention," states that this is an industry in which "it can easily cost more than \$300 to acquire a new retail customer, and perhaps \$60,000 or more to secure a new enterprise customer." While customer acquisition and retention are just two variables in determining customer value, they are particularly essential in the mobile telecom world. Peppers & Rogers cite a marketing campaign by the wireless division of Sprint that increased its wireless customer base by 22 percent and a single-quarter operating income improvement of 64 percent. However, Sprint's campaign also created more shareholder value as a result of a significant decline in its customer churn rate, hence, greater lifetime customer value. These acquisitions and retentions each created about the same amount of increased lifetime values.

This outcome is supported by research

reported in "Valuing Customers," published by the Marketing Science Institute, which stated, "...Retention has a very large impact on customer value. Specifically, a 10 percent improvement in retention increases the value of a firm's customer base by about 30 percent."

Who's Minding the Shareholders?

In a Sarbanes-Oxley, post-Enron world, the feet of corporate executives are routinely held to the fire when it comes to explaining the financial profile of an organization. Investors expect specific customer data, such as how much you are investing in each customer, earnings realized per customer, customer satisfaction levels, and how the organization is maximizing opportunities to increase customer value. While many utilities still have a captive audience, how management spends money to service customers – and the value delivered for that money – factor into market valuation and perception. Investing in the lifetime value of customers can demonstrate that the utility is prudent, customer-centric, regulator-sensitive and accountable to its shareholders. Claes Fornell is a pioneer of the American Customer Satisfaction Index and expert on customer asset management. His advice: "Unless an action is likely to increase both capital efficiency and the value of customer assets, don't do it."

Customer Satisfaction and Customer Lifetime Value: The Convergence

Faced with the impetus to incorporate customer lifetime value into decision-making, how does a utility translate that concept to the daily delivery of customer service and achieving customer satisfaction?

The process could start by gaining a greater understanding of the customer base, segmenting customers by available demographics, credit and payment history, usage patterns and potential for increased sales via upselling and cross-selling. Management can then make assessments of how best to serve the customers – while still adhering to regulatory guidelines – that create the most value. For example, the most valuable customers could receive premium service when they call. Customers with poor credit histories may not receive the fastest service. The utility could survey the high-value customers or those likely to increase value to obtain feedback on service delivery and how the utility might serve them better. In competitive markets, acquiring and retaining the right customers and building their lifetime value is key to survival.

The utility should also have in place a mature emergency and disaster response plan. Nothing dooms customer satisfaction faster than the perception that the utility is either unprepared or unresponsive during an emergency. A good faith effort will earn customer satisfaction, even if service cannot be restored as quickly as customers wish.

Utilities who demonstrate their ability to manage responsibly and without waste may be able to count on less customer resistance and a more positive regulatory environment.

In addition, they will be more appealing to capital markets and, as S&P notes, earn better credit quality as a result of higher customer satisfaction. The ability to demonstrate increased valuation and higher credit quality is critical in obtaining favorable financing and decreasing indebtedness. Equally important, shareholders – and stakeholders in municipal environments – will see their investment appreciate as a result of customers who believe the utility sincerely cares about identifying and meeting their needs.

About the Author

Kay Fuhrman is Vice President of Business Development for Alliance Data's Utility Services division, supporting sales and business development activities for the company. Kay brings nearly 20 years of utility and energy experience that includes leading large-scale sales negotiations with tier-one utility clients. She can be reached by phone at 972-348-4396 or via email at kfuhrman@alldata.net.

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Telco & Utility Companies Provide Poor Service In UK

Standard Of Service Is At An Unacceptable Level

- 63% of consumers questioned have had bad experiences with home service providers, problems include:
 - 39% of company representatives did not turn up for appointments
 - 31% arrived more than one hour later than the agreed time slot
 - 16% were not able to fix the problem
 - 6% made the problem worse

Consumers Have Limited Choice

- 60% of consumers feel they have little or no choice when it comes to home service companies

Companies Cite Unexpected Events For Failing To Deliver Acceptable Service

- 94% of companies cited unpredictable events as the cause of problems when delivering service to their customers

Consumers Must Take Some Responsibility

- 26% of companies also blamed customers not being there for failed appointments

A huge gap exists between what customers expect from utility companies, telcos and other businesses, collectively known as home service providers, and the service that companies are able to offer today according to research.

The study was commissioned to better understand the discrepancy, if any, between what customers find acceptable and what service providers' are able to deliver, and to identify what the biggest hurdles are to closing this gap.

Of the consumers questioned, 63% have had dreadful experiences with home service visits in the last three years, with company representatives not turning up for appointments as the most common problem (39%). Amazingly, in 6% of cases, service providers made the problem worse. Other common causes for poor experience include the field technician turning up late (31%) or not being able to fix the problem at all (16%).

In addition to disappointing experiences, 60% of consumers feel they have little or no choice when it comes to home delivery of goods and services. Most companies are as bad as each other by offering unreasonably long appointment windows and being late for appointments.

63% of working people in the UK have also had to make a special arrangement during the working week to accommodate the delivery of services or goods to their home, but when they cannot make an appointment, 20% of consumers would not phone before hand to cancel.

"Customers feel as though they are consistently let down by their service providers so therefore feel little or no loyalty towards them. In a market with an increasing number of choices and high customer expectations, consumers have wrestled the control of the relationship from the service providers and expect a higher level of commitment from their chosen provider," said Stuart

Potchinsky, Vidus VP of marketing and strategy. "Service providers who do not adopt and implement a customer-centric philosophy could find it to be a very costly decision."

Unpredictability

The survey also revealed that most service providers blame an inability to cope with unpredictable events as the reason for not being able to deliver a good service. 94% cited events outside of their control as the cause of problems when its mobile workforce does not deliver the promised service to its customers at the committed time. It is primarily events that are out of service providers' control which cause the most delays, with roadworks (63%), adverse weather (55%), employee illness (45%), unexpected traffic hold-ups/accidents (36%) and sudden new and urgent jobs (29%) as the most common unpredictable events.

In addition, 26% of respondents claim that a customer's absence when the workforce arrives for an appointment causes problems and delays. These problems not only affect the service that customers receive, but also have an impact on the companies' bottom line with 89% of them admitting that the costs of running a mobile workforces increases when unpredictable events occur.

Despite the huge impact of unplanned events, the ability of service providers to reorganise their workers quickly and efficiently is severely hampered by the systems used. Of those questioned, 71% use a manual system, which take an average of five hours to respond when unexpected events cause problems.

"Not surprisingly with unpredictable events hampering a good service and the inability of these companies' systems to deal with the impact, customers are getting a raw deal and service providers are absorbing a lot of waste. Most of these companies include time, money and people, for a problem that may not occur. Customers bear the brunt of this through the prices they pay, the service they receive and the time they are expected to sacrifice." comments Potchinsky. "In a world where a competitor offers the same service bigger, faster and better these kind of service compromises seem archaic and just won't cut it."

Despite all businesses questioned believing that an efficient and reliable service can give the company a competitive advantage, 92% said that delivering an on-demand service to their customers would be challenging, with 37% citing the complexity of coordinating a mobile workforce as the primary inhibitor.

Appointment Mismatch

The survey also indicated that a huge gap exists between the appointment windows customers believe are acceptable and the appointment windows they are offered by a home service provider.

Of the companies questioned, only 24% could offer customers an appointment window of two hours or less, despite this being the preferred option for 54% of respondents. The majority of companies (73%) offered slots of three hours or more, with a one-day appointment window being the most common (36%).

"It is encouraging that service providers believe that providing a good customer experience can give them a competitive advantage, but many of them are not using systems which allow them to manage their field service delivery effectively. We are fortunate to be working with a handful of those exceptions, companies who are heavily investing in their systems and processes to provide a better experience for their customers. Taking on average five hours to respond to change is a bad use of an employee's time and ultimately affects the level of service a customer receives. It also necessitates longer appointment windows in order to allow for greater flexibility." said, Martin Knestrick, @Road managing director, Europe. "The human brain is only able to make a limited

number of decisions per minute, so by using a fully automated system like taskforce which can make 60,000 value-based decisions a second, priorities are reorganised automatically and in real time to limit the impact on existing arrangements and to enhance [customer satisfaction](#)."

Major service providers who are benefiting from taskforce include NTL, Centrica/British Gas and BT. Since introducing taskforce two years ago, NTL has benefited from substantial savings to its service delivery costs, a dramatic increase in percentage of service level agreements (SLAs) met and a notable increase in the number of installations from existing workforce.

The research was carried out by Dynamic Markets amongst 100 UK service providers, with mobile workforces, and 1,000 UK consumers during February and March 2005.

About

Vidus

In today's increasingly complex and changing world, Vidus enables service providers to deliver a high quality of experience to their customers at the right time, the first time. Vidus was created to enable home service delivery companies in newly deregulated markets to deliver high-quality service experience to their customers by providing a unified, up-to-the minute view across the field service resource network.

Date Published: Friday, June 24, 2005

Customer relationships: learning from the utility sector

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Thursday September 6, 2007

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Businesses are increasingly aiming to foster 'better relationships' with their customers, with most trying to duplicate the techniques of small shopkeepers on a wider scale. But CRM systems and database marketing are only part of the answer, according to Rob Denton, managing director for UK-based Navigator Customer Management.

Billions of pounds have been poured into customer relationship management (CRM) systems over the past decade with the aim of gaining a detailed understanding of each customer and providing consistent communications regardless of the channel used.

The example of utilities

Energy companies in particular face an up-hill struggle in retaining and developing customer relationships, due mainly to the low customer engagement level of the industry. Consumers are simply not interested in their energy provider unless something goes wrong and they need to make contact. This gives some indication as to why churn rates

are so high (according to Ofgem over 4 million energy customers left their supplier in the first 10 months of 2006).

But how can the problem be solved? And how can energy companies begin to abate growing churn rates? First, says Denton, these businesses must understand the extent to which consumers want to engage with their brands. For some businesses, particularly those where there is either a strong natural need (e.g. IFAs or banks) or emotional attachment (e.g. fashion retailers or car manufacturers), it will be relatively easy to foster strong relationships with customers.

Build loyalty first

But others - and utility companies are a classic example - will need to work harder to alter the way in which their customers perceive them. British Gas recognised that, in order to sustain profitability, it needed to first improve its customer offer and service, saying "improving the quality of our service is a critical short-term priority".

Alongside its drive to restore customer faith, the company is also diversifying its brand and bringing in other partners to provide a more attractive package and a stronger emphasis on consistency. By broadening the utility offering and providing a higher number of products per customer, the chances of defection grow smaller as brand loyalty increases.

Combating inertia

This is also the case for telecoms suppliers, which face an environment of cut-throat competition and traditionally high customer defection rates, with research showing that mobile operators suffer annual customer churn of some 33.4%. Despite a relatively robust level of investment in customer loyalty initiatives, the sector has still not (in the UK at least) managed to achieve solid customer satisfaction, and telecoms companies still face rising inertia.

To overcome this and increase their overall appeal, telecom operators are introducing more mobile phone products into the market place, which our technology-preoccupied culture seems very willing to pay for. A report recently published by *Telecom Express* revealed that 50% of UK consumers now pay for mobile phone content, with services such as ring tones, telephone directory and "Where's My Nearest?" information all being deemed worthy of payment.

So, by combining channels that naturally reflect the behaviour of the consumer, mobile operators are gaining both market advantage and brand presence. By using affinity collaborations, these companies are starting to successfully nurture relationships with their customers, building a brand that they are less likely to defect from.

Data-driven customer service

For the utilities sector to really understand the inherent interest of their customers and encourage an ongoing dialogue and mutual interest, the focus will need to be on data driven customer service, Denton told *The Wise Marketer*. Recent research has shown that

what customers really value is not brand advertising, loyalty schemes or even celebrity endorsements but good old-fashioned contact, with informed and friendly staff who demonstrate real knowledge of the brand.

Organisations that give staff or agents training to become effective brand representatives, and that then support those staff with individual customer data to help them make conversations more relevant and compelling, are creating customer value that also generates a solid commercial return.

Sadly, utilities have been ranked as the worst at providing good customer service, although this will surely have to change as more products and services are offered under a single utility brand.

Conclusions

There is clearly a serious demand for utilities to invest in customer development initiatives and use data analysis to identify weak areas of customer service. And by analysing where the problem concentrations are - and where the majority of queries are coming from - they can begin to form a model that can even identify these problems before they happen, and give direction as to where increased efforts are needed.

Companies in under-performing sectors - such as energy and telecom utilities - should ideally repeat these analyses every year to refresh their customer service insights and see where the most significant changes are happening. Simple procedures, such as spotting the nature of customer complaints and how these are handled, can allow these companies to be more efficient without unnecessary investments in the wrong places and processes.

To reduce defection rates and improve customer engagement, Denton concluded, utility companies must continue to find ways of adding interest to the brand and making the experience of being a customer something that promotes loyalty, with tangible added value. Similarly, telecoms companies can no longer trust in the natural interest of the consumer and should instead enrich the market with more content services, and paying closer attention to relationship building.

More Info: <http://www.navigatorcm.com/>

Consumers move away from utilities - literally

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Friday June 28, 2002

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European utility providers are losing hard earned customers and their relationships because they don't track them when they move house, according to a new report from market analysts Datamonitor. With some twelve million moving home every year, the problem for utilities is enormous.

Whilst European utilities are spending millions on advertising and marketing in a bid to persuade customers to switch to them, they are overlooking an opportunity to catch home movers. According to Datamonitor, the utilities have no firm marketing strategies to attract home movers, and nor do they have a strategy in place to track existing customers who move house.

Large scale attrition

By tracking consumers by house rather than as an individual, there is a continual loss of customers through this wide gap in the sales process. Utilities must act quickly to avoid losing the customers they have built up. No matter how good the CRM system, a valuable customer relationship is negated if you lose track of them because you no longer know where they live.

Nearly 7 million customers move home every year in the deregulated energy markets of Germany, Sweden and the UK, and a further 5 million move home every year in the regulated markets of France, Italy, Spain and the Netherlands. And the utilities are spending millions on advertising campaigns to acquire fickle consumers who will switch for a better deal, whilst ignoring some of their best customers as they leave via the back door by moving to another area. Many home movers will switch to the provider which has traditionally served their new residence, either for convenience or by simply not realising they are able to change providers.

Wasted investment

Apart from the obvious disadvantage of losing the revenue each customer generates, utilities also lose the customer knowledge they have built up and must start the sales and marketing process from scratch. This means that many utilities are paying acquisition marketing rates again for customers with whom they already have relationships - a situation that is far from ideal. Datamonitor's research shows that in many cases those customers could have been retained with a well-timed telephone call or mailshot prior to their departure, or soon after their arrival.

Third party help

Home moving customers are going through one of the most stressful periods in their lives and need to be treated as such. Utilities that show they understand this experience, and help to make the process easier, will build customer loyalty whilst better positioning themselves to retain or even acquire customers. Utilities must try to become a natural part of the 'moving experience' by partnering with one or more of the moving intermediaries - the letting or estate agent, furniture movers and surveyors, for example.

Websites like <http://www.ihavemoved.com/> have become popular with home movers by providing address changing and intermediary link services. Only now are utilities like

Powergen, British Gas, and RWE linking with such providers, and tying customers in with special offers. By providing customers with time and cost savings at this crucial period their service can be retained and the likelihood of selling additional products improved.

More Info: <http://www.datamonitor.com/>

Utilities: a very unusual problem

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Wednesday April 24, 2002

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New research shows that the customers of utilities in Europe are not switching often enough. Yes, that's right. I had to read it twice, too.

Clearly, in a mature, finite-sized market, one company's defecting customer is another company's newly acquired customer. Of course, the more often they churn, the less profit everyone makes, because companies simply pass around the same number of customers without any of them keeping any for long enough to begin making a profit from them. So the optimum would seem to be a happy medium - switch once and then remain loyal. Ironically, a high churn rate (customers who switch more than once) keeps the industry regulators happy, because it shows them that there is healthy competition!

Few are switching

A new Datamonitor report, Affinity Relationships in Residential European Utilities, reveals that, despite fiercely aggressive marketing campaigns to entice customers to switch from competitors, few customers are actually switching. The UK has the highest switching rate, but still a massive 62% of UK customers haven't yet jumped suppliers. In Europe, the figure is much higher: 85-95% of Scandinavian and 96% of German households have remained loyal to their suppliers.

Emotional involvement needed

The promise of savings on their energy bill has proved to be not enough of an incentive for most customers to switch supplier. Even though the UK leads with average savings of around £40 a year, most customers see the switching process as too much hassle in return for limited savings. It all comes back to what many successful marketers have known for years: emotional involvement is necessary to stimulate action. Customers want rewards but, even more, they want emotive engagement if they are to be persuaded to switch.

Utility/non-utility partnership

Datamonitor's research shows that one of the best ways to overcome the apathy is by

forming affinity relationships with non-utility companies - a supermarket, for example. Partnerships such as these help to minimise the leap of faith needed for customers to trust in the bundled service offerings which suppliers are endeavouring to provide to their consumers. Datamonitor believes that utilities who try this approach could potentially see the rate of customer acquisition rise by between 8% and 15%, representing a very real growth opportunity.

So far, the most promising rewards have involved a utility/non-utility partnership: say, a utility partnering with an airline to offer its customers frequent flyer miles or with a supermarket to offer loyalty points on their utility spend. This is more tangible and useful than (necessarily so) small discounts on their bills. And, by associating with an already well-known brand, utilities can potentially increase their own brand recognition for a relatively small investment.

Charities too

Datamonitor's research has also shown that affinity relationships - specially with a charitable or "green" partner - can help to reduce the level of churn by as much as 50%, and can, as such, greatly aid the utility's revenue line. Affinity relationships help to build an emotional connection between the utility and the customer – the key to customer retention. Senior citizens are an attractive group to target as they are proven to pay bills on time and consume a high level of energy. Forming an alliance with a partner such as 'Age Concern' or a company such as 'Saga', which specialises in 'over 50's' services, allows the utility to directly market customised services to such valuable customer groups.

Coherent affinity portfolio

According to the report's authors, utilities' association with the affinity-marketing concept has been characterised by ad-hoc affinity initiatives, aimed at supporting existing marketing campaigns. However, case studies of successful partnerships within markets such as financial services indicate that utilities should now be placing affinity relationships at the heart of their competitive strategies. Utilities should aim to offer a coherent affinity portfolio, incorporating a number of partners, which will between them provide an opportunity for linking and increasing the volume of customer incentives.

Affinity Relationships in Residential European Utilities is available from Datamonitor priced at \$3,995. See details below.

More Info: <http://www.datamonitor.com/>

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1 **Interrogatory**

2

3 **QUESTION #16**

4

5 [Ex. D1/5/1] With respect to the Workforce Planning exhibit:

6

7 a. P. 2. Please confirm that Table 3 is a forecast of employees eligible to retire, not a
8 forecast of employees that are actually expected to retire.

9

10 b. P. 2. Please provide all data available to the Applicant relating to the average
11 number of years an employee works after their first retirement eligibility date, with
12 breakdowns by job category where available.

13

14 c. P. 2. Please confirm that on average the Applicant expects 3.69% of its employees
15 to be eligible for retirement in each of the next ten years (210/10/569).

16

17 d. P. 4. Please provide a copy of the Electricity Sector Council research referred to.

18

19 e. P. 4. Please confirm that the apprenticeship programs were initially set up to deal
20 with the aging workforce problem and the lack of trained staff in certain positions.
21 Please describe what changes have arisen since then that requires the
22 apprenticeship programs to be supplemented.

23

24 f. P. 4. Please explain the phrase “augmenting technical positions required for the
25 purposes of realizing the strategic direction”.

26

27 g. P. 6. Please describe what programs, if any, the Applicant has initiated or in which it
28 has participated that seek to ameliorate labour shortages through the upgrading of
29 the skills of trained immigrants who lack Canadian qualifications.

30



- 1 h. P. 7. Please explain why, if the retention rate for apprentices is expected to decline,
2 it is better to spend money early on apprentices, rather than compete in the
3 marketplace when experienced staff are actually needed. Please provide any
4 studies or analyses comparing the internal training vs. market participation options.
5
- 6 i. P. 7. Please describe any programs of the Applicant or in which it has participated
7 that seek to develop trades skills at the high school level.
8
- 9 j. P. 8. Please provide a copy of the Electricity Sector Council's recommendation
10 referred to.
11
- 12 k. P. 8. Please provide evidence supporting the need for a six month overlap per
13 position. Please provide all benchmarking data associated with this metric, and
14 please explain why private sector companies regularly adopt a 1-4 week overlap
15 between retiring employee and new person.
16
- 17 l. P. 9. Please provide the rationale for each of the new positions referred to.
18
19

20 **Response**

- 21
- 22 a. Table 3 represents employees who are eligible to retire with an unreduced pension in
23 each of the stipulated years.
24
- 25 b. Available data shows that of the 27 employees who have retired or given notice to
26 retire, around 60% retired on the date they are eligible for an unreduced pension.
27 The remaining 40% work an average of 7 months past this date, many utilizing
28 earned and unused vacation leave to transition into retirement. There are also 23
29 employees who are eligible to retire and have as of yet not indicated a retirement
30 date. Please see c. below for breakout by job category.
31



- 1 c. From 2011 until 2020, an average of 3.8% of employees per year will be eligible to
2 retire (210/10/548). In the same period, an average of 4.6% of trades and technical
3 employees per year will be eligible to retire (120/10/260). Furthermore, and of critical
4 importance, from 2011 to 2017, an average of 6.5% of Power Line Maintainers per
5 year will be eligible to retire (53/7/116).
6
- 7 d. The Electricity Sector Council research referred to can be found at
8 www.brightfutures.ca
9 Resource Centre, Reports, *Skill Shortages and Labour Market Transition Measures*
10 *in the Canadian Electricity Industry*, Executive Summary Report, page 4, as well as
11 under Statistics, Sector Statistics, Retirement.
12
- 13 e. The apprenticeship programs, particularly for Power Line Maintainers and Meter
14 Technicians, require supplementation based on the increased number of qualified
15 journeypersons who will be eligible to retire during the period of time it takes to
16 become fully trained as a journeyperson. The existing apprentices in these trades
17 are not sufficient to maintain the complement of qualified journeypersons required to
18 perform core work on the distribution system as further explained in Exhibit D1-5-1,
19 pages 5 to 8.
20
- 21 f. “Augmenting technical positions required for the purposes of realizing the strategic
22 direction” refers to the plans outlined at page 9 of Exhibit D1-5-1; more specifically
23 the Customer Service Plan, the Environmental Sustainability Plan and the
24 Information Technology Plan.
25
- 26 g. Hydro Ottawa actively participates in Hire Immigrants Ottawa, a United Way initiative
27 that supports skilled immigrants and their potential employers. We post all positions
28 with Hire Immigrant Ottawa’s Job Match Network. The program matches
29 internationally trained individuals to employment opportunities commensurate with
30 education and experience. Hydro Ottawa also participates in Hire Immigrants
31 Ottawa events to support diversity in the workplace and provide coaching to



1 internationally trained individuals. Hydro Ottawa's President and Chief Executive
2 Officer is Co-Chair of the Employer Council of Champions for Hire Immigrants
3 Ottawa.

4

5 h. As a result of the strategies utilized in the recruitment of apprentices, Hydro Ottawa
6 has experienced strong rates of retention. In comparison, experience in hiring
7 qualified journeypersons has been minimal given the existing and forecasted labour
8 shortages in the sector. In addition, the retention rates of these experienced
9 journeypersons are less than favourable. The hiring and training of apprentices has
10 provided proven retention results and given the anticipated retirements in the
11 Canadian electricity sector and at Hydro Ottawa, this is the more prudent and
12 responsible method of ensuring that there are sufficient qualified journeypersons
13 available at Hydro Ottawa to perform core work on the distribution system.

14

15 i. Hydro Ottawa participates in a number of initiatives aimed at introducing high school
16 students to the skilled trades and to employment at Hydro Ottawa. Examples include
17 World of Work forums which each year are attended by over 12,000 grade 8
18 students and teachers in the Ottawa area; Take Our Kids To Work Day program
19 attended by Grade 9 students; and yearly cooperative education and summer
20 student programs.

21

22 j. The Electricity Sector Council's recommendation is referred to in research which can
23 be found at www.brightfutures.ca
24 Resource Centre, Reports, *Skill Shortages and Labour Market Transition Measures*
25 *in the Canadian Electricity Industry*, Executive Summary Report, page 4.

26

27 k. As elaborated by the Electricity Sector Council in the above-noted research,
28 electricity sector workers, as is the case at Hydro Ottawa, have a life-long career in
29 the electricity industry, and these workers possess a tremendous amount of
30 corporate memory and experience. As a result, it is critical that this high standard of
31 knowledge and skill be passed onto the next generation and a period of 6-months is



1 found to be appropriate to ensure that not only is the corporate knowledge passed on
2 but that such is documented, to the extent feasible, during the same period.

3

4 I. The rationale for each new position is as follows:

5

6 **Senior Customer Contact Agent**

7 The Senior Customer Contact Agent will work in the project management office and
8 support the development and roll-out of initiatives associated with the Customer
9 Service Plan.

10

11 **Environmental Officer**

12 The Environmental Officer will coordinate the implementation of the Environmental
13 Sustainability Strategy and monitor and report on progress against established plan
14 deliverables, timelines and key performance indicators. The Environmental Officer
15 will also provide support for the environmental compliance program and ISO certified
16 environmental management system.

17

18 **Security Analyst**

19 The Security Analyst will support the implementation of a formal security program for
20 Information Technology and Information Management systems including the
21 establishment and execution of a compliancy program.

22

23 **Systems Support**

24 The System Support will provide operational support and implementation of
25 Information Technology systems residing on the Hydro Ottawa network infrastructure
26 across multiple sites.

27

28 **System Operations Technical Specialist**

29 The System Operations Technical Specialist will carry out field services for
30 residential, large commercial and industrial customers including power quality, radio
31 interference and magnetic field measurements. This position will provide support for



1 the SCADA Engineering group by carrying out duties that may include preventative
2 maintenance, troubleshooting communications and providing assistance when work
3 is carried out from an aerial device.

4

5 **Green Energy Engineer**

6 The Green Energy Engineer will explore opportunities further to the Green Energy
7 and Green Economy Act and support the implementation of associated initiatives.

8

9 **Technical Specialist**

10 The Technical Specialist will develop, support and maintain internal work flow
11 processes from engineering, to procurement, to construction and to maintenance of
12 assets, to ensure efficient end to end processes which optimize the use of resources.
13 The position will also be responsible for leading the transition of the processes to a
14 paperless and virtual environment.



1 **Interrogatory**

2

3 **QUESTION #17**

4

5 [Ex. D3/1/3] Please provide a 2010 OM&A forecast based on seven months of actuals
 6 and five months of forecast.

7

8 **Response**

9

10 Hydro Ottawa produces a Q2 forecast based on 6 months of actuals and 6 months of
 11 forecast.

	US of A	2010 YE Forecast	2010 Q3-Q4 Forecast	2010 Q2 Actual	2009 Actual	Variance (\$)	Percent Change %
Operation		\$12,891,881	\$6,561,682	\$6,330,199	\$11,364,065	\$1,527,816	13.4%
Load Dispatching	5010	3,396,007	1,586,287	1,809,720	3,177,345	218,662	6.9
Station Buildings and Fixtures	5012	600,973	388,500	212,473	623,465	(22,492)	(3.6)
Trans. Station Equip. - Labour	5014	109,617	50,602	59,015	98,211	11,406	11.6
Trans. Station Equip. - Expenses	5015	24,212	10,984	13,227	43,680	(19,468)	(44.6)
Distribution Station Equipment - Labour	5016	424,448	166,300	258,149	269,275	155,173	57.6
Distribution Station Equipment - Expenses	5017	93,035	49,644	43,391	108,428	(15,393)	(14.2)
Overhead Distribution Lines and Feeders - Labour	5020	953,094	400,705	552,388	743,584	209,510	28.2
Overhead Distribution Lines and Feeders - Expenses	5025	2,233,142	789,240	1,443,902	1,668,647	564,495	33.8
Overhead Distribution Transformers - Operation	5035	27,958	-	27,958	12,295	15,663	127.4
Underground Distribution Lines - Labour	5040	899,212	484,598	414,613	806,140	93,072	11.5
Underground Distribution Lines - Expenses	5045	1,805,317	1,111,746	693,572	1,491,329	313,988	21.1



	US of A	2010 YE Forecast	2010 Q3-Q4 Forecast	2010 Q2 Actual	2009 Actual	Variance (\$)	Percent Change %
Underground Distribution Trans - Operation	5055	2,231	2,058	173	33,366	(31,135)	(93.3)
Meter Expense	5065	3,130,389	2,041,723	1,088,666	1,588,162	1,542,227	97.1
Miscellaneous Distribution Expense	5085	(807,755)	(520,706)	(287,048)	700,138	(1,507,893)	(215.4)
Maintenance		\$4,954,802	\$2,216,568	\$2,738,234	\$5,171,079	(\$216,277)	(4.2%)
Maintenance of Transformer Stations Equipment	5112	209,509	55,982	153,527	336,148	(126,639)	(37.7)
Maintenance of Distribution Stations Equipment	5114	709,346	222,905	486,441	1,049,989	(340,643)	(32.4)
Maintenance of Poles, Towers a Fixtures	5120	295,769	104,013	191,756	300,728	(4,959)	(1.6)
Maintenance of Overhead Conductors and Devices	5125	632,724	322,201	310,523	738,310	(105,586)	(14.3)
Maintenance of Overhead Services	5130	625,484	357,022	268,462	502,993	122,491	24.4
Maintenance of Underground Conduit	5145	74,717	14,708	60,009	174,315	(99,598)	(57.1)
Maintenance of Underground Conductors and Devices	5150	1,071,757	351,208	720,549	713,449	358,308	50.2
Maintenance of Underground Services	5155	365,686	204,592	161,094	327,659	38,027	11.6
Maintenance of Line Transformers	5160	487,813	219,255	268,558	451,095	36,718	8.1
Maintenance of Meters	5175	481,996	364,681	117,315	576,393	(94,397)	(16.4)
Billing and Collecting		\$10,038,256	\$5,614,456	\$4,423,800	\$10,233,636	(\$195,380)	(1.9%)
Meter Reading Expense	5310	276,147	112,092	164,055	497,472	(221,325)	(44.5)
Customer Billing	5315	7,034,581	3,615,739	3,418,841	6,454,518	580,063	9.0
Collecting	5320	1,814,850	896,625	918,225	1,766,044	48,806	2.8
Collections Charges	5330	42	-	42	(709)	751	(105.9)
Bad Debt Expenses	5335	912,636	990,000	(77,364)	1,516,311	(603,675)	(39.8)



	US of A	2010 YE Forecast	2010 Q3-Q4 Forecast	2010 Q2 Actual	2009 Actual	Variance (\$)	Percent Change %
Community Relations		\$5,328,227	\$2,819,993	\$2,508,233	\$4,594,942	\$733,285	16.0%
Community Relations - Sundry	5410	5,130,932	2,728,644	2,402,288	4,470,513	660,419	14.8
Demonstration and Selling Expenses	5510	197,295	91,350	105,945	124,429	72,866	58.6
Administrative and General		\$21,873,044	\$10,778,538	\$11,094,506	\$20,670,993	\$1,202,051	5.8%
Executive Salaries and Expenses	5605	2,313,645	1,217,849	1,095,796	2,699,842	(386,197)	(14.3)
Management Salaries and Expenses	5610	5,313,383	2,639,423	2,673,959	5,206,365	107,018	2.1
General Administrative Salaries and Expenses	5615	1,647,327	190,665	1,456,662	2,452,624	(805,297)	(32.8)
Office Supplies and Expenses	5620	3,906,020	2,368,805	1,537,215	3,356,987	549,033	16.4
Administrative Expense Transferred - Credit	5625	(2,412,122)	(1,772,059)	(640,063)	(2,445,112)	32,990	(1.3)
Outside Services Employed	5630	720,543	583,680	136,863	201,012	519,531	258.5
Insurance Expenses	5635	691,921	382,311	309,610	338,543	353,378	104.4
Injuries and Damages	5640	534,350	307,314	227,036	628,598	(94,248)	(15.0)
Employee Pensions and Benefits	5645	671,254	350,000	321,254	605,814	65,440	10.8
Regulatory Expenses	5655	1,530,987	977,218	553,769	1,127,054	403,933	35.8
General Advertising Expenses	5660	-	-	-	3,843	(3,843)	(100.0)
Miscellaneous General Expenses	5665	2,416,094	1,178,587	1,237,507	2,166,054	250,040	11.5
Maintenance of General Plant	5675	4,474,108	2,294,496	2,179,612	4,266,187	207,921	4.9
Charitable Contributions	6205	65,536	60,250	5,286	63,182	2,354	3.7
Sub Total		\$55,086,210	\$27,991,237	\$27,094,973	\$52,034,715	\$3,051,495	5.9%
Taxes Other Than Income Taxes	6105	1,622,066	832,501	789,565	1,793,952	(171,886)	(9.6)
Total OM&A Expenses		\$56,708,276	\$28,823,738	\$27,884,538	\$53,828,667	\$2,879,608	5.3%



1 **Interrogatory**

2

3 QUESTION #18

4

5 [Ex. D3/1/3, p. 4] Please provide details of the numbers of personnel, by job category,
6 moving from Smart Meters to operational duties in 2010, and the associated dollar costs.
7 Please describe in detail how the operational duties were handled while those personnel
8 were assigned to Smart Meters.

9

10 **Response**

11

12 Implementation of the Smart Meter program and time of use (“TOU”) rates has been a
13 significant undertaking for Hydro Ottawa and has demanded dedicated personnel
14 assigned in four main areas to ensure the success of the program: Smart Meter
15 installation, meter data services, meter data management and repository (“MDM/R”)
16 interface development, and TOU change management. The actual number of personnel
17 assigned to the project at any point in time throughout the four years of the project did
18 fluctuate. This is typical for a project of this magnitude, one that saw the installation of
19 300,000 meters and the development of all the systems to manage the TOU billing.

20

21 In order to ensure that there was no detriment to the on-going business operations when
22 employees were drawn away from their normal operations duties, each position was
23 evaluated individually to determine the business impact and whether the workload could
24 be reassigned and shared among other employees or if the position needed to be
25 replaced (i.e., backfilled). Each situation was treated differently, taking into
26 consideration the specific business requirement and budgetary concerns.

27

28 Throughout the project, Hydro Ottawa has adhered to the principle that only incremental
29 costs were charged to the Smart Meter project. Specifically, internal labour costs were
30 charged to the project only if it was a new position or when a position was backfilled or
31 not otherwise included in the base distribution rates.



1 The work performed by staff related to smart meter installations and development of the
2 MDM/R interface was, to a great extent, capitalized since these assets have a long term
3 useful life. As these projects wind up in 2010 and staff return to their operational duties,
4 the amount of labour that is capitalized is reduced by \$770,000 in the 2010 budget,
5 thereby increasing the OM&A budget by an equivalent amount. The remaining budgeted
6 increase in Meter Expense, account 5065, is attributable to a combination of: 1) an on-
7 going increase of approximately \$500,000 in annual IT maintenance support costs and
8 data communication charges and business continuity planning, and 2) an increase in
9 one-time expenses for such items as customer communications (\$210,000), training
10 (\$373,000) and incremental call centre costs (\$186,000).

11

12 The following sections describe the shift in staffing requirements arising from each of the
13 four key areas of the Smart Meter project in 2010.

14

15 **Smart Meter Installation**

16

17 Hydro Ottawa completed the mass deployment of meters first in areas in which meters
18 were predominantly outside, easy to access and with few modifications required. These
19 residential installations were high in volume but low in complexity and, for the most part,
20 they were performed by an external contractor. The remaining higher complexity and
21 higher risk installations, as well as all commercial installations, have been performed by
22 Hydro Ottawa crews.

23

24 In 2010, the Smart Meter residential deployments are substantially complete, although
25 there are a number of installations remaining to be done in areas that are more difficult
26 to access. As such they are more complex and take longer to complete, resulting in a
27 relatively higher cost per meter. Additionally, there are still a number of commercial
28 installations to be completed and these are being performed by Hydro Ottawa crews.
29 Thus the capital program continues, but to a lesser extent than in previous years. As the
30 “new” smart meters that were first deployed at the onset of the program are now five



1 years old, the technician crews are now resuming their traditional meter maintenance
2 activities.

3

4 **Meter Data Services**

5

6 Three new permanent positions were hired at the inception of the Smart Meter project to
7 design, develop, test and implement all meter data management components, such as
8 the Metering Automation Server (“MAS”) and Advanced Metering Infrastructure
9 management tool (“AMI MT”), and all of the necessary internal and external system
10 interfaces. As those systems are now operational, these positions are transitioning to an
11 on-going support role to manage these systems that collect, store and process more
12 than seven million meter readings per day.

13

14 **MDM/R Interface Development Team**

15

16 Significant effort continued into 2010 to develop, test and implement the interfaces that
17 convert metering data to the format required by the provincial MDM/R and the new
18 functionality within our Customer Information System (“CIS”) to bill customers according
19 to TOU rates. The team consisted of six employees chosen for their functional and
20 technical expertise from Hydro Ottawa’s Customer Care, CIS Support and Meter Data
21 Services departments. One of these employees has been assigned to the MDM/R team
22 since the inception of the Smart Meter/TOU project and, due to the extended nature of
23 the assignment, the substantive position was permanently filled to ensure there was no
24 detriment to on-going operations. Since Hydro Ottawa plans to replace the current CIS
25 system in 2011-2012, a decision was made to curtail new development and
26 enhancements, other than essential work required to implement regulatory and
27 legislated changes. The resulting reduction in overall workload allowed remaining CIS
28 support staff to cover most of the operational duties of members assigned to the MDM/R
29 integration team in 2010 with only one additional contracted term position to backfill.

30



1 Shortly after the systems went live in June 2010, the MDM/R team members returned to
2 their home departments to provide continued operational support for the new TOU billing
3 system.

4

5 **TOU Change Management Team**

6

7 Early in 2010, Hydro Ottawa formed a change management team to manage significant
8 business changes associated with the transition to TOU. This dedicated team was
9 comprised of five personnel who were considered subject matter experts in their
10 respective areas: Customer Care, Billing and CIS. By relieving them of their day-to-day
11 operational duties and assigning them full-time to the transition, the team was able to
12 focus on validating and documenting all business process changes, evaluating business
13 impacts and skill gaps, developing extensive training material and delivering training to
14 over 200 employees. During this period, their operational duties were performed by a
15 combination of temporary contract personnel and internal acting appointments. In total,
16 four contracted term positions were hired in 2010 over and above the staff complement
17 covered by base distribution rates.

18

19 Hydro Ottawa began the process to transition customers to TOU rates in June 2010 and
20 since then the Change Management team has been winding down their work. Two team
21 members have already returned to their substantive positions and two others are being
22 reassigned to implement the necessary process and system changes required as a
23 result of the recent Customer Service Code amendments issued by the Ontario Energy
24 Board. One employee will remain assigned to the TOU change management effort
25 throughout the remainder of 2010 as Hydro Ottawa continues to transition customers to
26 TOU rates.



1 **Interrogatory**

2

3 QUESTION #19

4

5 [Ex. D4/1/1] Please restate Table 1 including only full time staff, and removing from
6 2008 approved and actual, and from 2009 actual, all full time personnel and positions
7 that have subsequently been moved to affiliates.

8

9 **Response**

10 Please see Table 1 below.

11

Table 1 – Adjusted Head Count

	2008 Approved	2008 Actual	2009 Actual	2010 Budget	2011 Budget
Executive	7	6	6	6	6
Management	94	101	104	105	109
Non-unionized	49	48	39	36	38
Unionized	420	414	411	422	439
Total	570	569	560	569	592

12

13 As stated in the footnotes on page 1 of Exhibit D4-1-1 Table 1 does not include
14 temporary employees. Five (5) positions were moved from Hydro Ottawa Limited to an
15 affiliate at the end of 2008, one executive position and four (4) management positions.
16 Table 1 has been restated with these adjustments.



1 **Interrogatory**

2

3 QUESTION #20

4

5 [Ex. D4/1/1, Attach Y] Please provide the breakdowns by employee category for 2010
6 and 2011 for all components of the table, including head counts, aggregate
7 compensation information, and average compensation information.

8

9 **Response**

10 Please refer to the unredacted Exhibit D4-1-1, Attachment Y as 2010 and 2011 is
11 included in this attachment. A copy is included as an attachment to CCC #30.