Ontario Energy Board

Commission de l'énergie de l'Ontario

Ontario

EB-2007-0680

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

AND IN THE MATTER OF an application by Toronto Hydro-Electric System Limited for an order approving or fixing just and reasonable rates and other charges for the distribution of electricity to be effective May 1, 2008, May 1, 2009, and May 1, 2010.

BEFORE: Paul Sommerville
Presiding Member

Paul Vlahos
Member

David Balsillie
Member

DECISION

May 15, 2008

3. Capital Budgets and Rate Base

A summary of the proposed capital budgets for 2008 and 2009 are shown in the table below, as are capital expenditures ("CAPEX") for 2006 and 2007 for context.

Table 1
Summary of Capital Budget ($000s)
Exhibit D1 Tab 7 Schedule 1, page 10

	2006 Historical	2007 Bridge	2008 Test	2009 Test
Sustaining Capital				
Underground Direct Buried	7,327	31,961	45,424	54,565
Underground Rehabilitation	33,112	31,327	30,514	27,188
Overhead	19,040	22,703	17,339	18,912
Network	5,625	3,996	4,514	6,187
Transformer Station	745	9,377	9,304	10,673
Municipal Substation Investment	5,977	7,008	8,090	6,454
Sub Total Sustaining Capital	**71,826**	**106,372**	**115,185**	**123,979**
Distribution System				
Reactive Work	11,094	14,866	15,550	15,514
Customer Connections	36,400	34,400	36,360	37,383
Metering	1,517	8,057	12,964	16,539
Smart Meter	3,614	-	36,207	34,567
Engineering Capital	20,960	23,195	26,417	27,051
Capital Contribution	(23,632)	(19,633)	(19,600)	(19,600)
Asset Management	2,600	300	5,650	10,670
Total Distribution System	**124,379**	**167,557**	**228,732**	**246,103**
General Plant				
Information Technology	15,210	20,911	27,706	27,227
Fleet & Equipment Services	6,212	8,640	8,771	8,196
Facilities	5,689	13,770	25,340	17,792
Other (Gear, SCADA, CIS, Banner)	4,861	3,228	300	100
Total General Plant	**31,974**	**46,549**	**62,117**	**53,315**
AFUDC		2,274	3,325	3,914
Capital Recoveries	(1,581)	(4,061)	0	
Miscellaneous	2,631	1,120	210	(1,825)
Total Expenditures	**157,403**	**213,439**	**294,384**	**301,507**
% increase compared to 2006			**87%**	**92%**

The issues addressed in this chapter are: sustaining capital; information technology; metering and smart metering; regulatory treatment of vehicles for personal use; and, proceeds from sale of assets.

3.1 Sustaining Capital

Sustaining Capital is the largest part of the Applicant's CAPEX increases for the test years.

The Applicant has undertaken 3 diagnostic studies on the condition of its assets and has filed the reports of these studies as part of its evidence. These include:

- Asset Condition Assessment Study by Kinectrics;
- Cable Condition Study by Mr. Paul Densley (ArborLek); and
- The Applicant's Internal Cable Condition Assessment by Mr. Kahn (collectively the "studies").

In addition to asset condition, the Applicant replaces assets because of obsolescence, safety issues, plant relocate requirements, and to improve overall network flexibility and functionality within its service territory.

The studies show that most assets are in "good" or "very good" condition; however, a few specific asset classes may be deteriorating faster than they are being replaced, and these require more immediate actions beyond routine maintenance. The Company's evidence was that during the 2008 to 2010 period, it would be addressing only those assets that are either in the "poor" or "very poor" categories. The Kinectrics report recommended that the assets characterized as "very poor" be replaced over the next 2-3 years and that the assets in "fair" condition be planned for replacement in four to ten years, since it is anticipated that the assets now in "fair" condition would fall into the "very poor" by the end of that period.

The major areas where rehabilitation is needed, and where the majority of expenditures are planned, are the categories of "Underground Buried Cable" and "Station Transformers". The Kinectrics report indicated that 32 Station Transformers were in "poor" or "very poor" condition. The Company's internal assessment recommended that 6 of those transformers ought to be replaced in each of 2008, 2009, and 2010. The Kinectrics study suggested that there are 777 circuit km of Direct Buried Underground

Cable near end of life, while the Applicant internal staff assessment recommends that 599 conductor km of this cable be replaced between 2007 and 2009.

Evidence was presented showing that there is an increase in outages as reflected in the Applicant's System Average Interruption Frequency Index ("SAIFI"). The main cause of power interruptions to customers is "defective equipment". In 2006, the Applicant's defective equipment contributions to SAIFI were almost double the national average. However, the Applicant's Service Quality Measures, as measured by reported Customer Service Performance Indicators[2] , are well above the service standards from 2001 to 2006 (except for Emergency Response in 2002).

In the Applicant's view, such information on system reliability, combined with information on the age of various assets and the studies of the condition of the Applicant's distribution assets, demonstrate a need for increases in spending for sustaining capital.

The Applicant has concluded that replacement is more prudent than repair of its aging infrastructure in many cases. In reaching that conclusion, it relied upon the asset studies and a software program called "Asset Investment Strategy", which assists in evaluating and prioritizing investments.

A number of concerns were raised by Intervenors and Board staff with regard to the planned capital replacement program. These concerns include:

- It appears that the capital replacement program was developed prior to the completion of the studies;
- Many of the consultants' recommendations, considering the timing of asset reviews, were not used in developing the capital budgets for the three year plan;
- The criteria used to categorize the condition of the assets may not have been comprehensive;
- No further diagnostic testing is planned (2008-2010);
- Data gaps and inconsistencies;
- Confusion about such items as cable types and distances between transformers; and
- Diagnostic testing programs and rejuvenation methodologies may not have been adequately explored or utilized

[2] Exhibit B1/Tab 13/Schedule 1

The Applicant states that it would be undertaking further testing, as suggested in the consultants' studies, to help focus replacement beyond 2010. It intends to investigate cable rejuvenation and diagnostic testing to define more precisely the requirements of the cable replacement problem beyond the test years (i.e. once replacement of currently-identified "poor" and "very poor"-condition cables has been largely completed).

The Applicant maintains that if the CAPEX budget were not provided in full, then the OPEX budget requirements would escalate due to the increased amount of maintenance that would be required.

With regard to implementation of the capital plan, the Applicant's witness described the Applicant's Enterprise Resource Planning ("ERP") process which derives, among other things, the number of hours available for work during a test year as compared to the number of hours needed to implement capital programs. The Applicant witnesses confirmed to the Board that, in addition to its own employees, it is confident that it can acquire the contract services necessary to implement certain aspects of the capital plan over its proposed test year period. The contract work represents a substantial portion of the sustaining capital program in 2008, and tapers off in 2009. This staging is both appropriate and technically necessary. It also provides the Applicant the opportunity to hire and train new additional employees sufficiently to become engaged in the work of installing and connecting plant that is not yet "live".

VECC pointed out that large increases in CAPEX and OPEX for 2008 are added to the significant increases made to CAPEX and OPEX in 2007; the 2007 increases have not been examined or approved by the Board. The end result is the 2008 revenue requirement reflects significant increases in spending which may or may not be warranted. VECC proposes that a Deferral/Variance account be established for sustaining CAPEX. VECC recommends that the Board approve the 2008 Capital Budget, subject to the sustaining capital budget over- or under-runs being tracked through the variance account for disposition in a subsequent proceeding.

SEC agrees that the budget for cable replacement should be approved, however, it asserts that the Applicant should be required to submit additional evidence to demonstrate that it has done further diagnostic testing and considered alternatives to full replacement of the cable assets.

SEC also recommends that a Variance Account be established for these expenditures within the test period, since the Applicant has proposed a large capital expenditure that is far in excess of its past level of expenditure. In SEC's view, there is a high probability that actual expenditures will differ from the forecast. SEC was also of the view that the Variance Account approach would protect ratepayers from paying for assets that do not come into service.

Board staff suggested that the Applicant has not adequately explored alternatives to full replacement, such as improved diagnostic testing and partial replacement.

The Applicant argued that as it has a strong interest in being able to manage its capital program professionally and in being able to deploy resources advantageously, the proposed asymmetric, zero-dead band variance account proposed by SEC for sustaining capital expenditures should not be adopted.

Board Findings

The proposed budgets must be viewed in the light of the resolution of the "Threshold Issue" to allow the Applicant to rebase for 2008 and 2009. There is no doubt that the proposed levels of capital expenditure are considerable. From the evidence that has been presented, the physical assets of the distribution system have a significant component that are in the "end-of-life" category and have been classified by Kinectrics as either "poor" or "very poor". Many parties acknowledge that parts of the Applicant's network, built from the 1950s to the 1980s as Toronto and its suburbs grew, are aging and in need of repair or replacement. There is a common recognition that the Applicant must accelerate capital expenditures to some extent. It is important to acknowledge that the Applicant, like every other utility in the province, has had to weather considerable uncertainty in its operating environment brought on by changes in regulatory direction since market opening in 2002. There have been periods of rate freeze and other somewhat unexpected and anomalous circumstances. These changes were not of the Applicant's making, and the Board recognizes that they may have complicated its response to emerging issues, such as equipment assessment, repair and replacement.

In other recent Board decisions, and elsewhere in this Decision, the Board has emphasized the importance of placing spending proposals within historical norms. The guiding principle is that extraordinary spending proposals must be supported by

compelling evidentiary support which is commensurate with the extent of the increases sought.

In large part, the various studies referenced earlier establish the need for a substantial increase in sustaining capital spending. However, there are some other considerations: for example, ratepayers are entitled to expect that Utility management has an ongoing strategy to address equipment condition issues year over year. This is as true of years prior to rebasing as it is within rebasing years. In the years since amalgamation the present utility is expected to have been anticipating equipment condition issues in a manner calculated to smooth spending and ensure reliability of the system. Indeed, the present utility cannot point to the inadequacies of its constituent utilities, or the uncertain operating environment referred to above as a complete explanation for its inability to anticipate the equipment condition issues highlighted by Kinectrics.

Further, the Kinectrics report, while categorizing certain assets as falling within the "poor" and "very poor" rating, stops short of identifying replacement as the only option available to deal with them. It also suggests that further testing, and different kinds of testing, may serve to refine some of the characterizations it has made, which may lead to more latitude in the replacement strategy.

The Board therefore will approve 80% of the requested amounts in the sustaining capital budget for each of 2008 and 2009. These substantial increases will allow the Company to execute its program, but also take into account the other very significant and demanding efforts to be undertaken by the Company within the next two years as for example in the areas of IT upgrades, and facilities changes.

This reduction recognizes that the replacement strategy may not be the only option, and that enhanced assessment and testing may lead to retention of some assets now planned for retirement. The fact that the capital budget was completed without full input of the external experts also suggests that something less than the full budgeted amount will be sufficient to allow the Company to address its asset condition issue in the test period. The Board also is concerned that the failure of the Company to adequately address this issue before now has created a situation where lumpy spending is needed. Wherever possible, utilities should act so as to avoid the kind of extensive catch-up program described in the Company's proposal.

The Board finds that the establishment of a Variance Account is not the appropriate method to track and assess the Company's progress in effecting the very ambitious programs outlined in the evidence.

Instead, the Board requires the Company to provide a report reflecting its progress in its replacement and maintenance programs for its underground cable replacement and plant replacement program, to be filed at the time of its next application dealing with rates beyond the test period dealt with in this proceeding. In subsequent rate cases, the Utility must be in a position to provide asset condition studies and other analyses that support its capital strategies and budgets. The Board expects that the Applicant will undertake appropriate studies and analysis to address the questions concerning its asset management practices that have been raised during this proceeding, including options for increased diagnostic testing, rehabilitation versus replacement, and better identification of situations where replacement in its distribution network (both in the nature and location) of the assets is needed in whole or in part.

The quality of the subsequently obtained information should improve as the Applicant upgrades its information systems, facilitated in part by IT expenditures approved in this Decision.

The Board expects that the Applicant will support any subsequent cost of service or capital expenditure application with appropriate studies. At a minimum, an Asset Condition Assessment study that is integrated into the Applicant's asset management plan and budget cycle which evaluates various cost-effective alternatives for refurbishment, replacement or rejuvenation approaches should be filed.

3.2 Information Technology

The Applicant has proposed major increases in the Information Technology and Services (IT&S) component of its budget for the test years. In its pre-filed evidence, the Applicant provided a summary of its recent history as a context for these proposed increases.

During the amalgamation of the former municipal utilities (1998-2000), there were rapid changes in the organizational structure, technologies and handling of Y2K-associated risks. The focus was to maintain stability amidst the first wave of integration. During the so-called "consolidation phase" (2001-2003), the electricity industry as a whole

faced a new challenge around the retail initiative and the technology changes required to prepare for market opening.

Additionally, for the Applicant, in late 2000 the business transformation initiative started with the implementation of the Enterprise Resource Planning system "Ellipse". In what the Company describes as "the stabilization period" (2004-2005), it was necessary to absorb the high rate of change introduced previously, with an emphasis on operations and stabilization of systems; the integration of key systems like the Supervisory Control and Data Acquisition ("SCADA") system, the Geographic Information System ("GIS"); and the Distribution Management System ("DMS").

The modernization period began in 2006 with the appointment of a Chief Information Officer and the development of a new IT&S direction, including a number of initiatives aligned with the Applicant's strategic objectives, a restated IT mandate and an assessment of the risks of the current situation within the division. The Applicant stated that one of the components of its approach is a three-year program (2007-2009) to implement a best practices framework. This is described by the Company as Control Objectives for Information and related Technologies ("COBIT"). The Company also states that COBIT is an IT industry standard which provides a comprehensive framework and processes for the management and delivery of high quality IT-based services; and the management and delivery of projects, services and major commitments against budget and project scope.

In order to operate the various systems efficiently and effectively, the Applicant pointed out that the importance of building a sound architecture, based on a Service Oriented Architecture ("SOA"), cannot be overstated. Today, the core systems of the Applicant do not share a common architecture for communication or integration, resulting in many point-to-point interfaces between applications. In the Company's view, the SOA initiative is highly strategic as the key enabler of many critical systems and business processes.

The Applicant proposed an increase in information technology assets from $137.1M in 2006 to $245.7M in 2010 (an increase of $108.6M or 79.2%). The increase is primarily due to the following activities:

- Control Centre Consolidation;
- Outage Management System;

- Distribution Management System;
- Customer Information System upgrade;
- Security Office Establishment; and
- Core Legacy Application upgrades.

IT capital investments were $15.2M in the Historical Year (2006) and $20.9M in the Bridge Year (2007). The Applicant is proposing IT capital expenditures in the Test Years of $27.7M in 2008 and $27.2M in 2009[3]. If the O&M costs are added to the capital expenditures, the totals are: 2006 (actual) - $37.8; 2007 (bridge) - $47.4M; 2008- $56.2M; and 2009 - $56.7[4].

The Applicant contended that this increased spending over the test years supports a multi-year program aimed at improving business productivity. The Applicant testified that in order to achieve the full benefits of the IT investments, it is necessary to build on the infrastructure platforms implemented in the first year in the second and third years. The Applicant will also be upgrading its core legacy systems to eliminate outdated applications (e.g. Windows 2000, Office 2000) and standardize current versions of software.

The Applicant acknowledged that it had not followed the normal business practice of refreshing hardware and software in the years prior to 2006. The Applicant also acknowledged that, although there would be staff savings resulting from the implementation of the Business Intelligence System, there would be no IT staff reductions since the productivity gains would be applied to new business systems that require more IT staff.

Intervenors challenged the IT spending proposal. There were suggestions that general capital including IT should be held at historical levels consistent with customer growth.

In reply, the Applicant reiterated the necessity of its proposed spending, stating that it must move forward with these IT projects in order to replace expired and unsupported systems and move to current versions to ensure ongoing maintenance, vendor support and software upgrades. It also indicated that it is implementing other productivity and service enabling systems and an IT governance framework to ensure the optimal deployment of systems to enable the Applicant's employees to deliver service and

[3] Exhibit D1/Tab 10,/Schedule 2-1, p. 5, Table 1
[4] Exhibit F2/Tab 10/Schedule 1

productivity improvements to its ratepayers. The Applicant maintained that its IT programs are integrated with operations and other projects to prudently support business requirements, and that its IT projects are supported by business cases.

Board Findings

The Board notes the Applicant's evidence that, in the years prior to 2006, the normal business practice of refreshing the IT hardware and software was not undertaken. There are various factors, such as amalgamation, industry restructuring, and legislative and regulatory changes which may have impacted the Applicant's prioritization of the funding and execution of these upgrades, at least in part. While most Ontario distributors were also impacted by many of these same factors the integration of disparate operational and information systems of the former municipal electrical utilities may have made this a greater challenge for the Applicant.

This leaves the Applicant in a position of having to upgrade its legacy systems, plus its management and operational systems, in short order. All of the proposed projects are presented in detail in the Company's evidence. Individually, these projects are well-constructed and make considerable business sense. Collectively, there is a high cumulative cost and an intensive human resources effort required if all of these programs are to be implemented as planned. The capital investment increase in IT from 2006 to 2007 represented a 37.5% increase in funding. The proposed capital investment increase for 2008 represents a further 32.5% increase to $27.7M, a total increase of 82.2% over a two year period, before stabilizing and decreasing.

The Board has noted the arguments of the intervenors who are concerned that such large expenditure increases cannot be fully justified in the short term.

The Board notes that the Applicant has many other capital and operational projects planned for the test years, and its capital budget represents a significant increase from historical levels. These increases are in a number of areas, and a number of these programs are multi-year in nature.

One specific project that is being implemented by the Applicant is the consolidation of its operations centers, going from seven in 2006 to three over a number of years. The consolidation is expected to result in operational efficiencies and to facilitate communications among the Applicant staff. However, the consolidation will not be

completed in the test year period, and the Applicant is leasing facilities and relocating staff over the period. While the Board sees the need for the Applicant to address its underinvestment in IT assets, it is not convinced that the Applicant's proposed IT projects are fully justified during this period of operational reorganization and change.

As in all other areas of proposed spending increases, the Board looks to the Company's historical spending norms as a guide. The apparent underinvestment in this area over the recent past ought not to be used as a springboard for sharply increased spending now. The Company must, to some extent, live with its prioritization over the recent past; and customers are entitled to protection from lumpy spending plans that could have been, and should have been, avoided if appropriate measures had been taken earlier. This is as true of this aspect of the Company's proposal as it is for the sustaining capital and controllable operating expense aspects.

Consistent with its overall finding, the Board is approving amounts only for the two test years of 2008 and 2009. The Board finds that the Applicant's plan for upgrading and modernizing its IT infrastructure and investment in its IT systems must take a long-view approach, must be balanced and must be consistent with the Utility's size and its organic growth as well as customer growth. The Board therefore orders that there will be a 10% increase per annum in the IT capital budget in the next two test years, as follows: 2008 - $23.0 Million and 2009 - $25.3 Million. With $23.0 Million in 2008, the Applicant will be in a position to commence the majority of its proposed projects, judiciously manage its program overall and maintain significant progress in this business area.

3.3 Meters

The Company's expenditures for metering fall into the following three categories:

- Wholesale meter installations;
- Smart meter installations to convert previously bulk-metered condominiums; and
- Smart meter installations to meet the Ontario Government's requirement.

The table below sets out the expenditures associated with each category for years 2008 and 2009.