Glen A. Winn
14 Carlton St.
Toronto, Ontario
M5B 1K5

Telephone: 416.542.2517
Facsimile: 416.542.3024
regulatoryaffairs@torontohydro.com

December 20, 2010

via courier

Ms. Kirsten Walli, Board Secretary
Ontario Energy Board
PO Box 2319
2300 Yonge St, 27th floor
Toronto, ON M4P 1E4

Dear Ms. Walli:

Re: Toronto Hydro-Electric System Limited's ("THESL")
2011 Electricity Distribution Rate Application – Corrections and Confidential Filing
OEB File No. EB-2010-0142

THESL filed its responses to Interrogatories on December 6, 2010. Updates were provided on December 9. THESL is now filing corrections to the following responses:

- Board Staff 30 – Appendix A
- Consumers Council of Canada 4 – Appendix A
- School Energy Coalition 31

Please note that these corrections will also be reflected at the start of the next business day, on THESL's Regulatory page at:
http://www.torontohydro.com/sites/electricsystem/Pages/2011EDRApplication.aspx

In addition to these corrections, THESL is providing the following additional documents in accordance with the OEB's *Rules of Practice and Procedure* in its Practice Direction on Confidential Filings:

- Toronto Hydro Corporation's Business Plan 2011-2015 – referenced in Consumers Council of Canada 1, School Energy Coalition 6 and 37 part d), and Vulnerable Energy Consumers Coalition 5 part c)

- Redacted contract – referenced in response to School Energy Coalition Interrogatory 37 part f). Note, one representative contract is provided.

Please be advised that THESL will be providing these documents directly by courier, to intervenors once an executed Appendix D (OEB's Form of Declaration and Undertaking), in accordance with the OEB's *Rules of Practice and Procedure* in its Practice Direction on Confidential Filings ("Practice Direction") is received by THESL. THESL also notes that should any party wish to cross-examine/or address these documents in any other way during this proceeding, those proceedings will be conducted *in camera*, and any submissions or other written material pertaining to these documents will be filed in confidence, all in accordance with the Practice Direction. Appendices D and E are attached hereto for intervenors' use.

Yours truly,

[original signed by]

Glen A. Winn
Manager, Regulatory Applications & Compliance

.att

:GAW/acc

cc: J. Mark Rodger, Counsel for THESL
Intervenors of Record for EB-2010-0142

Toronto Hydro-Electric System Limited
EB-2010-0142
Exhibit R1
Tab 4
Schedule 4
Appendix A
Filed: 2010 Dec 20
(23 pages)

An Analysis of Productivity Improvements at Toronto Hydro-Electric System Limited

Prepared by **KeyWillow Consulting**
For Toronto Hydro-Electric System Limited

Submitted: July 20, 2009

Introduction

Toronto Hydro-Electric System Limited (THESL) was brought into its current form by the amalgamation of six local distribution companies in 1998. A key argument for the amalgamation was increased productivity.

Productivity, however, is a difficult concept to define or measure in the context of electricity distribution. There is no standard definition or metric enjoying widespread industry acceptance. Even if agreement can be reached on defining the output of a utility, making comparisons between utilities in widely different circumstances, or even with past performance by the same utility in a vastly different context, is full of difficulties. Every attempt to arrive at a number quickly bogs down in disputes over the impact of those differences.

Instead of concentrating on gross year-over-year numbers, a better way to conceptualize ongoing improvements in LDC (Local Distribution Company) productivity, and predict their future trend, is to treat the issue holistically. Has the leadership of the utility implemented improvements that have made operations more efficient? Have they avoided cost increases that would have come with inaction? Have they resisted the impulse to simply harvest the return on earlier investment, and spent what is needed to guarantee future efficiencies? Most importantly, have they institutionalized an approach to continuous productivity improvements? If they have not met the last test, then all their accomplishments might simply be the result of a particular conjunction of management will and opportunity, which could disappear when circumstances change. With a formalized system in place however, improvements will be maintained, and new ones continue to appear.

THESL does pass those tests. It has achieved significant productivity gains through a suite of systemic tools that work together to produce constant, incremental improvements, and by sponsoring focused initiatives which address major opportunities or challenges.

At THESL, productivity improvements derive almost automatically from the utility's use of a robust planning and performance management system – MCRS (Management Control and Reporting System). MCRS is a methodology for organizational planning, execution, control, and reporting that uses constant reviews of key performance indicators (KPIs) to align organizational objectives.

MCRS is also helping to create a culture in which productivity is a key value. Achieving this cultural shift is a long-term program at THESL. It follows a proven methodology for success, which involves initiatives in leadership and the development of appropriate systems, particularly performance systems.

In addition to such broad programs, THESL is undertaking specific initiatives to realize process efficiencies and improve the utilization of resources and assets. Recent and ongoing productivity improvements at THESL include job harmonization, grid response consolidation, and asset management services amalgamation.

Of course, THESL cannot merely focus on gaining greater productivity; such a single-minded focus would result in the harvesting of existing investments, without thought for the future. Instead, the utility is also making focused investments to drive future productivity improvements.

These initiatives do not take place in a vacuum. The technological, regulatory and social environments in which LDCs operate are increasingly complex. THESL consistently shows leadership and innovation as the industry undergoes increasingly rapid change.

Recent Productivity Gains

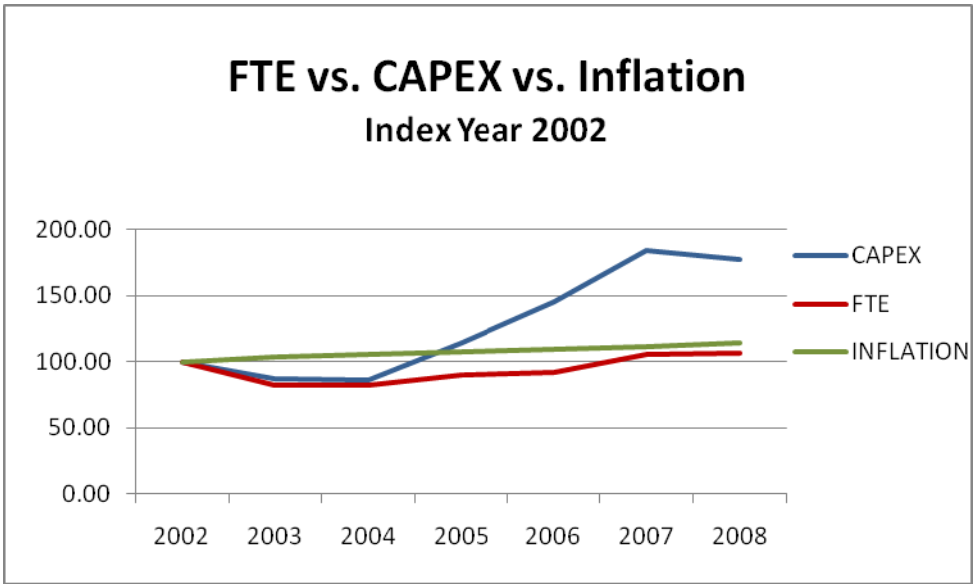
The work performed by THESL over the last seven years has grown substantially. In particular, the distribution infrastructure capital plan has almost doubled, which suggests doubling the requirements for planning, work delivery, and all supporting functions (such as fleet and supply chain). THESL is handling this demand without an equivalent gain in full-time employees (FTEs). In fact, much of the increase in FTEs which has taken place is due to the increased hiring of apprentices under the workforce renewal program (discussed later in this document).

Figure 1 below provides a comparison of the growth rates for capital expenditure and FTEs (indexed to 2002 figures). The graph and table show the clear divergence between the two rates: while plant capital expenditures have been rising steadily, actual FTE count has remained almost flat. (Figure 1 also shows annual inflation in Canada over the same period, as measured by the Consumer Price Index.)[1]

Fig 1. THESL Plant Capital Expenditure, FTE, and Inflation 2002 - 2008

Year	2002	2003	2004	2005	2006	2007	2008
CAPEX ($M)	116	101	100	132	168	213	205
FTE	1462	1201	1207	1316	1343	1543	1562
INFLATION (CPI)	100	103	105	107	109	111	114

[1] Annual CPI figures from http://www.rateinflation.com/consumer-price-index/canada-historical-cpi.php?form=cancpi



MCRS: A Framework for Improvement

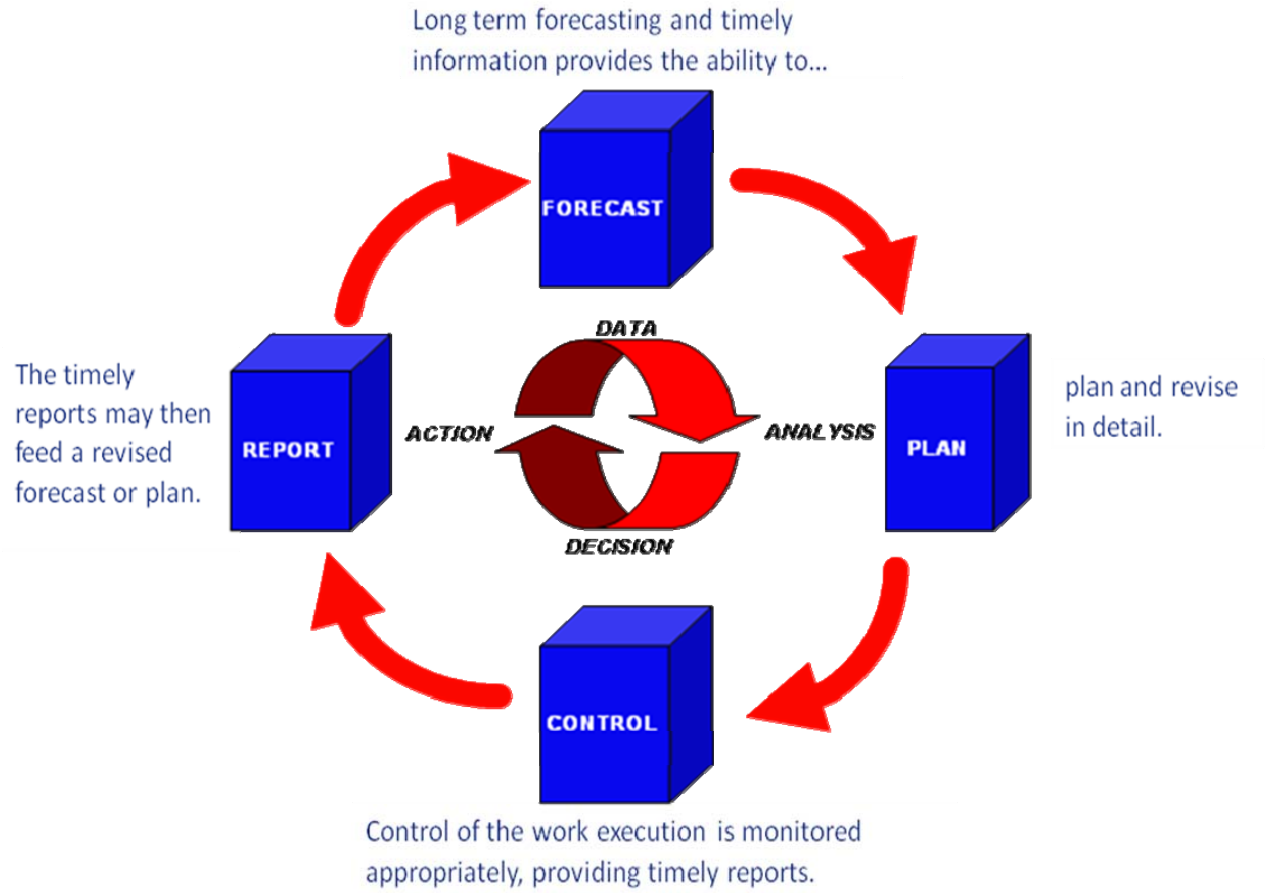
THESL's notable record of managed growth has been facilitated by the introduction of a common set of performance tools and accountability systems, which work together to produce constant, incremental improvements. The most important of these is the Management Control and Reporting System.

Overview

MCRS is a broad framework which encompasses many different aspects of planning and operations at THESL. At a fundamental level, it is a methodology of planning and control. MCRS imposes a systematic focus on the right information at the right time, enabling better business decisions at all levels of the organization.

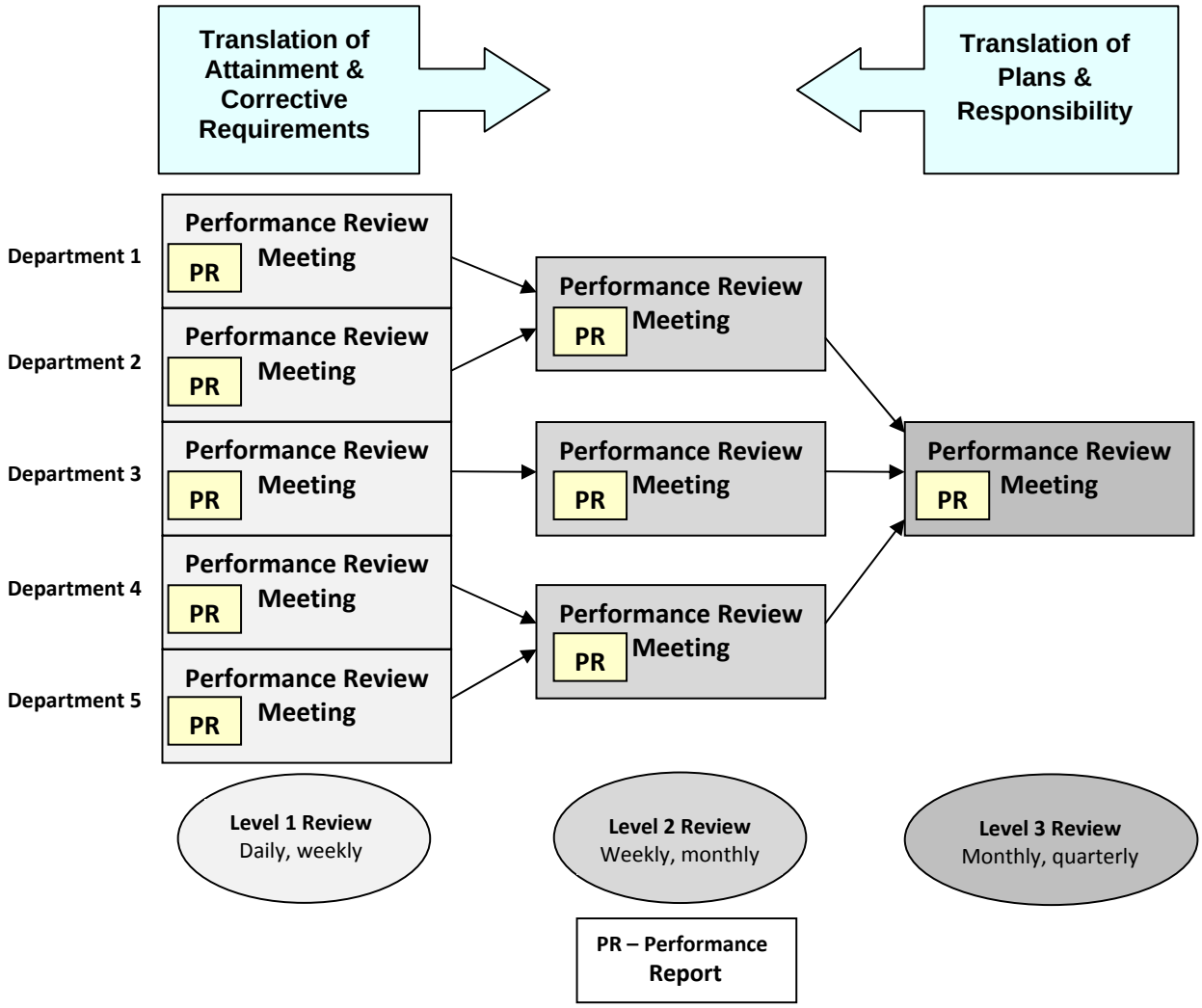
MCRS defines the managerial routines and disciplines required to control the business. As illustrated in Figure 2, the MCRS processes are based on the core cyclical activities of forecasting, planning, executing or controlling, and reporting. THESL applies this methodology explicitly and consistently to all of its programs and initiatives, so that all meet common purposes and shared objectives.

Fig 2. The MCRS Activity Cycle



In addition to being a planning and control methodology, MCRS also contains a sophisticated performance management system. MCRS translates enterprise or departmental goals into Key Performance Indicators (KPIs), which are then tracked and reported at regular intervals in a programmatic manner. As shown in Figure 3, the lower levels of the organization (on the left) are responsible for meeting the goals set out at the higher levels (on the right); they meet these objectives through increasingly frequent performance review meetings. Responsibility flows from right to left; goal attainment or corrective action flows from left to right.

Fig 3. MCRS Performance Management and Review Structure



Within the MCRS framework, KPIs are not treated as independent objectives. Instead, they are interpreted and monitored using balanced scorecards, which include an appropriate mix of people, financial, operational and customer-specific area indicators.

Short Interval Controls

THESL uses short interval controls to ensure that KPIs are monitored rigorously. Short interval controls are regular monitoring of actual performance of a KPI against plan. They typically roll up to weekly or monthly reports. Because KPI tracking at this level requires operational data at

the departmental level, THESL implemented MCRS in 2003 in conjunction with the launch of its enterprise system, "Ellipse." Ellipse features modules which make this aspect of MCRS viable.

Monitoring takes place at monthly Operational Status Review (OSR) meetings at the departmental, divisional and company levels. In these meetings, those responsible review performance and conduct gap analysis for any KPIs which are falling below threshold (as detected by the short interval controls). Depending on the type of response indicated, corrective actions will be taken to address the gaps – which may include launching an initiative or a larger project.

Fig 4. KPI Improvements in Supply Chain Services

As one example of the effectiveness of the detailed planning and monitoring component in MCRS, from 2002 to 2006 Supply Chain Services implemented several business process initiatives to address target KPIs. Significant improvements in inventory performance were achieved, including:

- Inventory turns increased from less than 1 annually to 3.5;
- Order fill rates increased from 75% to 95%;
- Cycle count accuracy increased from 70% to 97%;
- The number of SKUs fell from 20,000 to 8,000;
- Inventory value was reduced from $50 million to $28 million;
- Inventory burden costs decreased from 35% to 10%.

Planning with MCRS

The importance of KPIs and scorecards makes them an integral part of the annual planning process. At the culmination of that process, Executives work with the Board of Directors to select corporate-level KPIs which will represent the desired strategic objectives. Once selected, KPI target levels are established, based upon leadership's expectations, and taking into account anticipated conditions in the upcoming year and historical performance levels. THESL leadership then communicates these expectations throughout the organization. KPIs may change over time once results become sustainable and operationalized, and when business needs change.

Among THESL's current corporate KPIs, the following have a significant relationship to productivity improvements:

- People: Safety, "My Goal is Zero" (zero accidents)
- People: Attendance
- Financial: Operating Expense
- Operations: Distribution Plant Capital
- SAIDI (System Average Interruption Duration Index)

All scorecard KPIs cascade out from the corporate KPIs. At lower levels, the KPIs reflect particular areas for which a department or team is responsible, and are more granular and numerous. Once KPI targets have been defined for a department, the managers and supervisors are responsible for meeting them. Their results are scrutinized by the responsible executive, or the full executive team.

Ensuring Alignment

As illustrated in Figure 5 below, MCRS is critical to how THESL ensures that the goals and business activities of teams and individuals are aligned to overall strategic objectives, including those related to productivity.

Fig 5. Strategic Alignment at THESL

THESL's performance-based compensation philosophy – expressed through the Variable Performance Pay Program – incents employees to achieve aligned objectives through the variable component of their overall remuneration. At THESL, all executives, managers, supervisors and professionals are eligible for variable performance pay. Performance pay targets are assigned to each job and/or salary grade, expressed as a percent of the current year's base salary. Most recently, a Gain Sharing program for specific bargaining unit employees was negotiated with the union (this union employee performance reward strategy is discussed later in the report).

The variable component takes into account performance at all levels, including the company, the division or department, and the individual. Departmental goals and scorecards, themselves derived from higher-level objectives, are translated to individual employee objectives and embedded in annual personal performance contracts.

Improving MCRS

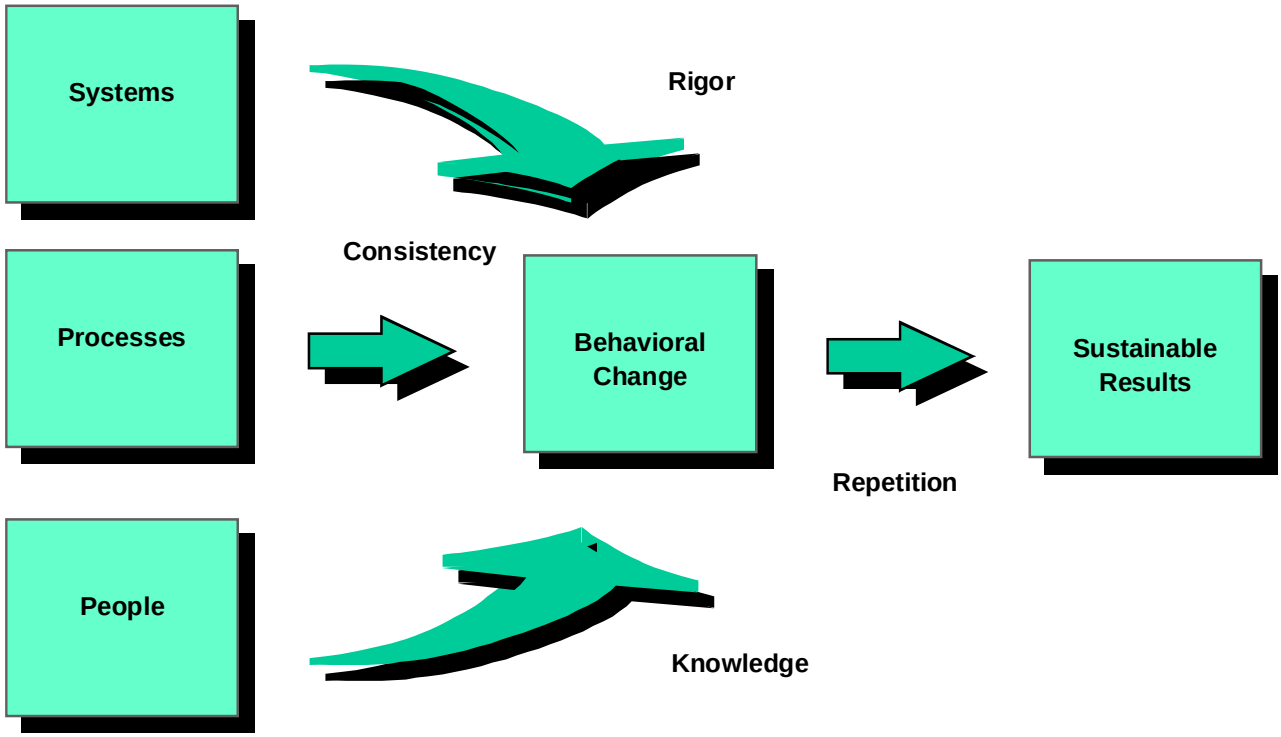
Since MCRS has already proved its value, THESL is investing to make it even more effective and efficient. "DashWay" is a web-based application that will automate the data entry, administration, reporting, and workflow functionality of MCRS – replacing the current version which requires significant manual input and maintenance. DashWay will also introduce a central repository of operational data, enhancing its usefulness as a source of business intelligence. By introducing new functionality such as more detailed and comprehensive gap analysis tracking, as well as improved analytic capabilities, DashWay will enhance the overall governance of the KPI system.

In these ways and more, MCRS is an important enabler for productivity gains. MCRS creates alignment and common purpose in the utility, and provides an effective guarantee that the success of the individual and the business are aligned. Yet there is one other aspect of MCRS which must be explored: its function as a tool for generating cultural change.

Generating a Cultural Shift

THESL is committed to the development of a performance culture, in which continuous improvements to productivity naturally occur. This cultural change is being achieved by continually advancing the key levers of systems, processes, and people. This model is best explained using the following diagram.

Fig 6. The Five-Box Model of Change



In this model, it is the combination of leadership activity, systems, and processes which allows change to succeed through rigorous, consistent, and knowledgeable application. Leadership or systems or processes working by themselves will not be enough to sustainably change the culture of the organization. Instead, a strategy of multiple, mutually-reinforcing initiatives must be deployed, usually supported by learning, development and training tools.

THESL has already employed this framework to achieve productivity improvement on a variety of topics and at a range of organizational levels. To support this framework, THESL has a detailed and proven methodology.

Gain Sharing

One key performance system initiative intended to reinforce the cultural embrace of accountability and productivity does so by using financial incentives. Gain Sharing is a group incentive program that pushes variable performance compensation significantly closer to the front lines. Crew Leaders and System Response Representatives (SRRs) are now enrolled in a

scorecard program that entitles them to bonus pay if certain targets are met in group performance. The targets and KPIs in Gain Sharing are a subset of those used in the THESL scorecard. They measure injury reduction, increased attendance, improved productivity, and enhanced customer service reliability. Since Crew Leaders and SRRs can influence whether the goals are met, they are encouraged not only to be accountable for productivity, but also to influence their crews and colleagues.

Gain Sharing marks a groundbreaking achievement in collective bargaining for CUPE Local No. 1 and THESL. Like most such innovations, it required significant collaboration between both parties to bring it about.

Scheduling Planned Work

THESL recognizes that cultural change cannot simply be imposed from above. Initiatives that allow front-line workers to dynamically respond to new challenges and directions are important. Allowing for collaborative decision-making empowers employees to take ownership (and thus accountability) of aspects of the cultural change. The drive for accountability in productivity, and the understanding that the response can be most effective when it is collaborative, has led to myriad improvements and local initiatives at the front line.

Fig 7. Improvements in Work Planning

An experienced manager in THESL's planned work function developed a better way to engage Crew Leaders in work planning as a result of the control and review process. Working with the Crew Leaders, he developed a strong and highly visual method for planning and tracking their work, by location and by level of completion. Significant improvements were achieved by giving crews a more immediate sense of their work at a granular level, along with the authority and flexibility to plan their work. The fact that the new approach transferred authority to the crews made adoption rapid, and brought results quickly. The clear success of this solution means it will soon be rolled out to other areas.

Strategic Projects and Governance

In its drive for accountability THESL has methodically formalized management and measurement systems across the company. This includes the creation of an internal project governance group in Strategic Management to ensure proper alignment of major projects to strategic objectives; to validate project business cases; to monitor ongoing project performance and the accuracy of project status reporting; and, to track achievement of benefits defined and committed to in the business cases.

A key aspect of project governance has been the instituting of standard project management processes, methodologies, and tools – following Project Management Book of Knowledge (PMBOK) principles and other best practices. Recently, a review of the project business case

process was completed and an enhanced business case model has been developed to drive better alignment of project goals and benefits with the company's strategic objectives as defined by the four strategic pillars – People, Heath & Safety; Customer Service; Modernization of the Utility; and Financial Performance. As well, the new model will ensure that project benefits are quantifiable and measurable, so that their attainment can be readily tracked and reported on upon completion of the project to objectively evaluate project success.

Elsewhere in the organization, the Information Technology (IT) division has also adopted Control Objectives for Information and Related Technology (COBIT), a generally accepted control framework for IT processes. The 3-year implementation program will result in all IT processes migrating to a mature level of formality and consistency. To ensure that the improvements are sustained, core processes will now include a feedback cycle, which will monitor process effectiveness, and be linked to process-specific KPIs.

Under the COBIT umbrella, IT has undertaken a range of initiatives which help increase efficiency and guarantee that productivity continues to improve. This includes implementing a portfolio management process to align IT projects with business objectives and prioritizing those that improve productivity, as well as adopting best practice frameworks such as the recognized standards of the Project Management Institute (PMI), Information Technology Infrastructure Library (ITIL), The Open Group Architecture Framework (TOGAF), and ISO 17799 (standard for information security management, issued by the International Organization for Standardization). The project governance concepts and processes within IT are consistent and aligned with those managed by the corporate project governance group in Strategic Management.

Employee Health and Safety

THESL is reinforcing the culture shift to accountability by making employees more responsible for their own health and safety on the job. Of course, there is a direct link between productivity and health and safety. Recently, the Workplace Safety and Insurance Board (WSIB) calculated that the average cost of a lost-time injury in Ontario in 2006 was approximately $98,000. Eighty percent of this consisted of costs to the employer through property damage, lost production, manager and supervisor time, compliance costs associated with Ministry of Labour orders, and lowered employee productivity when on light duty[2]. Also employees who are sick or injured do not only become less productive themselves, they may also impact their co-worker's health or morale.

To give employees a greater role in looking after their own health and safety, THESL launched the ZeroQuest® program at THESL in 2007. ZeroQuest® is an industry framework developed

[2] Original Source: WSIB, cited by Electrical and Utilities Safety Association
http://www.eusa.on.ca/Home.aspx?PageID=7&mid=_ctl0_MainMenu__ctl1-menuItem000

by the Electrical & Utility Safety Association (E&USA), which envisions a final goal of completely eliminating lost-time injuries and illnesses. The ZeroQuest® initiative rolls up to the "My Goal is Zero" corporate KPI (which tracks WSIB claims over the enterprise). ZeroQuest® requires an organization to commit to enterprise health and safety, and then make the effort to integrate health and safety with productivity through measured objectives and goals. The outcomes have to be measured, evaluated, and addressed. Finally, the organization must engage in a sustainable continuous improvement effort.

To support the ZeroQuest® program, THESL adopted the Internal Responsibility System (IRS). IRS encourages employees to take the initiative to find ways of doing their job more safely, or to take other steps to protect or improve their good health. Implementation of IRS (training started in 2008) will result in increased productivity as the intervals between accidents or work-related illnesses grow progressively longer. By ensuring that everyone in the organization takes direct responsibility for health and safety as an essential part of his or her job, IRS has become a key tool to support the cultural shift to greater personal accountability.

Undertaking Specific Initiatives Now

In addition to securing productivity gains through the implementation of permanent performance and management systems and the construction of a new culture of accountability, THESL is addressing specific opportunities to realize process efficiencies and better utilize existing resources and assets. Chief among these are projects which improve productivity by decreasing artificial, inefficient variations in how work is done. A series of harmonization and consolidation projects are addressing such opportunities throughout the organization.

Job Consolidation and Harmonization

As a legacy of amalgamation, THESL has been operating with hundreds of different job classifications. Job harmonization delivers a range of productivity outcomes, including:

- Providing more interesting, diverse, and multi-skilled work that enriches jobs and creates greater development opportunities for employees no longer limited by restrictive job classifications;

- Improving work processes, supporting safety, and reducing idle time by reducing the frequency and complexity of hand-offs:

- Improving the distribution of work and avoiding the stranding of labour resources caused by insufficient work of a specific and specialized nature;

- Improving the utilization of resources on inclement weather days, as the broader classifications will give them more work that can be performed indoors;

- Making training more efficient (fewer roles, even if more broad, will require fewer trainers);

- Enhancing attraction and retention by offering jobs of greater depth and breadth supporting continuous learning and opportunities for career advancement.

The first iteration of this exercise consolidated electrical mechanics and jointers (which affected about 100 workers) into a single group: Certified Power Cable Person (CPCP). While there were a number of drivers for this harmonization, the most obvious was the removal of inefficiencies in work procedures. For example, under the previous job classification system, only certain underground trades workers could do their work in a cable chamber, but they were restricted from doing similar work in a cable vault. That meant that two workers had to be available for a job involving a cable chamber and a cable vault even if the actual work being done in the two places was similar. In some cases, this would not affect efficiency, since each could do his or her work concurrently. But if one had to wait for the other to complete work before starting, the work became inefficient and less engaging for the workers.

The CPCP consolidation role is being used as a template to carry out other job harmonizations. Collectively, they will affect roughly one-third of THESL's total workforce. This initiative will result in reclassification of roughly 500 trades workers as some thirty job classifications are collapsed into just eight. The first major step in this process has already been completed: the signing of a Memorandum of Understanding with the workers' bargaining unit.

As job harmonization takes effect, it will result in more efficient work. THESL will document the efficiencies and update ongoing labour and material estimates used for planning construction work (known as compatible units or simply CUs). When work plans are created for the following year using CUs, they will reflect the new efficiencies, and thus lead to a more productive overall work plan. This increase in productivity will be sustained using the mechanisms described earlier: budgets, plans, scorecards and KPIs.

Other Standardization Initiatives

Job consolidation and harmonization is mirrored by a continuing drive to reach full standardization of the physical plant. Just as the legacy of amalgamation was an inefficient job classification structure, so there was a need to harmonize equipment, materials, nomenclature, and work procedures. Some standardization could be brought about immediately, but initiatives such as equipment standardization can only be moved forward as the plant ages and replacement becomes necessary.

A variety of related programs to ensure standardization will reap ongoing productivity gains, as existing workers can be deployed across the full organization, and new workers are trained in a single unified environment.

Grid Response Consolidation

Another type of consolidation initiative occurred recently in Grid Response. The Emergency Response function had been housed in three separate trouble room locations, each having its own unique set of response processes and procedures. In 2009, these facilities were consolidated to one location, using a single set of processes. FTEs were reduced from 70 to 48.

The Emergency Response teams are now focused more narrowly on tasks that are immediately related to power restoration. Previously, these teams had been charged with doing additional work, such as installing surge/lightning arrestors or insulator replacement. These tasks have now been reallocated to the Planned Work function to realize efficiencies and reduce duplication of effort.

Control Desk Consolidation

Control desks are at the heart of distribution system; making changes to them is no easy task. THESL inherited 6 control desks at amalgamation, each with its own map products, nomenclature, and operating practices. In 2002 the desks were centralized in one location, which provided some efficiency improvements. But the real payoff will only come from actually reducing the number of desks, which requires harmonizing the subsystems they control.

At first, THESL was able to reduce the number of desks to 4 through cross-training operators to work on different systems. But a more profound consolidation became possible with the implementation of the Distribution Management System (DMS) – a common software platform. First introduced in 2005, the rollout of DMS to embed more control desks is accelerating. In 2009, the 4 remaining control desks will be consolidated to 3, and then to 2 in 2010. The control desk consolidation allows the Control Room staffing level to remain flat while taking on the increased activity resulting from the new capital program and plant modernization.

Field Crew Initiatives

One of the key determinants of crew productivity is the amount of time they can spend actually carrying out work on the physical plant. After the last round of bargaining, THESL established the groundwork to maximize productivity by increasing the on-site time available to crews.

For some projects, in some locations, this is being achieved by the adoption of an “extended workday” which changes the working week from 5 normal days into 4 longer days. This schedule can be significantly more efficient because it reduces the time spent on daily set-up and

take-down at the job site as well as travel time to site, thus increasing the actual productive on-site time for the crew. This also allows crews to take advantage of extended summer daylight hours and increased roadway access.

A similar initiative, recently achieved in collective bargaining, will allow crews to report directly to their job site. Today, crews report initially to the operating facilities, and spend part of their work time travelling to the worksite location. This program will be particularly efficient for jobs where the equipment is staying at the job site for more than a day.

Additional improvements will arise from actively emphasizing Crew Leader performance expectations. This helps to codify and clarify the values which Crew Leaders are expected to display as they take an increasingly active role in ensuring their crews work to maximize productivity. Crew Leaders will continue to focus on delivering work on time, in scope, and within budget, while also emphasizing safety, professionalism, and productivity. In particular, Crew Leaders will manage start, stop, and break times and ensure that crews adhere to collective agreement work hours. The key accountability of Crew Leaders and Field Crews for earning and preserving customer trust has also been actively reinforced, in part through a link to the Gain Sharing program described earlier.

Operations Support Services Initiatives

THESL has also launched other consolidation initiatives that have resulted in clear increases in productivity. As a first step, the separate Supply Chain and Fleet Services organizations were amalgamated to form a single service organization. After this amalgamation, purchasing of fleet safety equipment, parts, and tools was centralized and moved to an RFP process, which netted an 11% reduction in annual cost.

Supply Chain has delivered a number of creative initiatives to help reduce inventory costs and improve productivity. In 2008, Supply Chain implemented a self-service "supermarket" of small parts for high volume, constantly moving inventory. The implementation of this service resulted in a reduction in backlog (reducing crew idle time) and a reduction in FTE in the warehouse from 18 to 15 while preserving the same level of parts availability.

In late 2009, Supply Chain will pilot a "Delivery to Site" program, which will result in major equipment components (such as transformers, poles, and wires or cables) being delivered directly to the job site by the manufacturer or distributor. Besides decreasing crew wait times, this program will eliminate costs to warehouse the materials or transport it from the warehouse to the actual job site.

THESL has substantially improved fleet utilization, and decreased fleet size, through rationalization. Since the initiative started (in 2004) THESL has been able to decrease the

number of vehicles by almost 15% even as the work of the utility (for instance the increased capital plan) has grown. This reduction was accompanied by other improvements in vehicle procurement, scheduling, maintenance and outfitting, to ensure that the right vehicle was always available for a particular job.

Fleet management initiatives continue to improve optimization by devising new and more accurate ways to measure vehicle utilization. One such measure is the amount of time the vehicle aerial devices are in use. This measure may be particularly helpful because it can serve as a proxy measure of general crew productivity on certain tasks, as well as provide useful data for deciding on the right mix and size of the fleet.

Investments to Drive Future Productivity Improvements

THESL understands that a vision which is limited to improving current productivity can be short-sighted. Without new spending, efficiency results only from harvesting old investment, which cannot be sustained indefinitely. Therefore the utility continues to make focused investments to drive future productivity improvements. Most of THESL's significant programs include an element of investment for the future, but for four of them (Workforce Renewal, Asset Renewal, Facilities Renewal, and Mobile Enablement) this is the dominant aspect.

Workforce Renewal

Between 2009 and 2018, it is expected that over 650 THESL employees will retire (representing approximately 45% of THESL's workforce). Over 50% of the attrition will occur in supervisory roles or in core trades and technical positions, where the results will be a substantial decrease in the skills and experience available. The challenge of maintaining and enhancing the productivity of the workforce in the face of unprecedented attrition will be magnified by the concurrent timing of a substantial plan to renew the distribution system.

Rather than waiting for this inevitable attrition to create gaps in skills or availability, THESL is rolling out a Workforce Renewal Program. This proactive approach will ensure that a dynamic, rigorously selected, and well-trained workforce will be in place to support or even increase current levels of productivity. THESL is filing a separate document which outlines the projected loss of FTE by year, and the comprehensive renewal program required to address it.

The focus of the renewal program will be on hiring and training for the overhead and underground trades, as well as designers and engineers. THESL created an internal Trades School in 2003, and intends to build on this success.

The impact on simply defined productivity is obvious: apprentices require up to five years of training before they are fully capable of performing all aspects of their jobs. In addition,

apprentices will participate in job shadowing, which reduces the productivity of the mentor in the short-term. To ensure that the new workforce is in place at the appropriate time, the overall FTE number for the utility will rise, before falling in subsequent years as program hiring winds up, and attrition continues.[3]

Asset Renewal

The Asset Renewal and Modernization Program is a multi-year undertaking which commenced in 2007. Guided by comprehensive asset condition studies, this initiative will have a long-term positive impact on productivity since an unreliable system is a drag on efficiency in all areas of output, and in particular requires higher emergency maintenance costs. Additional details on this program have been filed in a separate document.[4]

Facilities Renewal

One of the key principles guiding investment decisions in THESL's facilities is to optimize functional benefits. A well-chosen site for a Service Centre can significantly reduce travel time, decreasing response time to emergencies and contribute to increasing the productivity of field workers. A well-designed building can support the optimal flow of materials (such as in a warehouse) and work (such as in a repair shop or engineering design). It also can provide a climate for innovation and creativity, improving team communication and interaction, business processes, corporate culture, and employee pride and loyalty.

THESL's lease of the Monogram and Milner facilities is an example of this strategy in action; these are modern, functional facilities that support productivity.

Mobile Enablement Program

THESL's workforce is highly mobile -- crews move from job site to job site and customer to customer to perform emergency, maintenance and planned work. However, THESL's computer systems are predominantly accessed from stationary workstations and laptops. Aside from a few solutions in some discrete areas of the business, the current work processes include a large number of manual steps, and are not optimized for a mobile workforce. The Mobile Enablement Program seeks to improve this situation by implementing a mobile gateway capability (involving computing and communications infrastructure and applications), deploying mobile computing devices to the field workforce, and installing Global Positioning System (GPS) and navigation devices in all company vehicles.

[3] Compensation: Workforce Staffing Plan document in EB-2009-0139 Exhibit C2 Tab 1 Schedule 5

[4] 2010-2019 Electrical Distribution Plan document in EB-2009-0139 Exhibit D1 Tab 8 Schedule 10

THESL will implement the Mobile Enablement Program over a three-year period, ending in 2011. The mobile computing technology being deployed will allow field crews to enter data directly into their handheld mobile devices, or to view important system or asset information, while at the work site. The expected benefits of these functionalities include:

- Automation of data entry for job costing and elimination of follow-up work to capture maintenance and inspection data (due to poor penmanship or misplaced paper-based forms)
- Enabling field supervisors to spend more time on job sites to improve job execution and worker safety by providing them a "mobile office"
- Better field decision-making arising from access to greater and enhanced distribution system and field asset information
- Reduced time lag for entry of field data into Ellipse to update financials, equipment registry, and job costs.

Using the vehicle position tracking and operating performance monitoring capabilities of GPS and routing features of a navigation system, the following benefits can be expected:

- Shorter response time to emergency calls (most appropriate vehicle will be dispatched to the relevant job site following the most direct route)
- More effective fleet maintenance programs arising from the collection of better vehicle operating data
- Lower fuel costs resulting from more optimized routing of vehicles
- Faster response time for fire, ambulance and police in the event of a worker or public emergency, as accurate vehicle locations are tracked in real time

Dealing with Complexity

The business, regulatory and community environments in which THESL operates change frequently and rapidly; THESL consistently and dynamically responds to or anticipates these changes. As a major utility, THESL is aware that it needs to display leadership and foster innovation as it meets these challenges.

The structure of the industry has changed profoundly over the last decade, with the introduction of quasi-free market forces; greater concern for, and understanding of environmental impacts; and demand for electricity in the face of limited supply. Legislative changes have been dramatic,

from the 1998 breakup of Ontario Hydro, through market opening in 2002, and now the Green Energy Act (GEA) of 2009, which promotes or mandates the use of renewable resources, conservation, and distributed energy sources in Ontario.

For THESL, the requirements of the GEA are not unexpected. In fact, the utility has already taken a lead role in providing solutions such as smart meters and conservation and demand management (CDM) programs to its customers.

THESL is undertaking one of the largest deployments of smart meters in Canada. The meters are only the most visible component of the program; supporting them required the implementation of an integrated smart meter back office infrastructure which delivers remote communication, automated meter reading (AMI), and data storage systems which allow Time-of–Use (TOU) billing, web presentment, and a customer web-based information system (allowing customers to see their hourly consumption and the resultant TOU costs).

The strong commitment to smart meters represents a key step in the development of a smart grid in Ontario. A smart grid, using two-way communication, advanced sensors, and distributed computers, improves the efficiency, reliability, and safety of power delivery and use. THESL continues to be a leader in the development of smart grids in Canada, and has already put some of the building blocks in place.

While implementing the smart grid will take a lot of effort, it does provide the long term potential to significantly increase productivity and customer service through the automation of manual processes and the utilization of highly efficient technologies.

Beyond its commitment to the smart grid, THESL has demonstrated industry leadership with award-winning conservation programs, as well as innovation in the area of Demand Response (DR). DR has traditionally been limited to commercial and industrial customers, but THESL has taken it to the residential segment too. Ironically, the success of such programs can make the utility seem less productive, since conservation and demand response decrease the “throughput” which is used in traditional definitions of productivity.

Changing Business Environment

Innovation and leadership are characteristic of THESL’s response to all challenges – not just those involving technology. A concrete example of innovation in management approach can be found in a recent decision to partner with Enersource Hydro Mississauga on the development of a new Customer Information System (CIS) platform. When THESL decided to upgrade their existing system, they realized that the costs of working with a vendor to develop a suitable product could be shared with other utilities.

The broad context for THESL's business operations continues to present new challenges. An increased emphasis on internal controls and disclosure places new demands and expectations on the utility, intensified now that the company has issued debt to a wider market than previously. Credit rating agencies require detailed information so that they can evaluate the creditworthiness of the utility. New regulations requiring that company officers attest to the effectiveness of financial reporting controls and procedures lead to greater demands for internal reporting and monitoring.

In 2011, International Financial Reporting Standards (IFRS) will come into force for most major Canadian companies, replacing Canadian Generally Accepted Accounting Principles (GAAP). The new regime will have a broad impact on THESL: it will require changes to reporting, budgeting, and forecasting processes, amongst others, across many functions and departments.

These challenges inevitably create pressure against simple productivity improvements, (i.e. those based on a direct comparison to earlier times) because they divert effort and resources away from traditional utility activities. However, it is clear that THESL as a whole is a more productive organization. The proof can be seen in the fact that the utility is able to deal with so many new challenges, without significantly increasing the resources it needs to do so, and while ensuring that normal operations continue safely, efficiently, and reliably.

THESL's Local Setting

While the larger environment continues to change, THESL's local environment does not remain static either. With a population of more than 2.5 million, Toronto is the largest city in Canada, and the fifth most populous municipality in North America. Annual population growth in the city is averaging 2 %, most of it due to international immigration. Prior to the current slowdown, Toronto's economy was also growing at a fast pace annually.

This pattern of consistent growth has led to an increasing strain on the city's infrastructure. Population densities are increasing in many parts of the city, traffic is becoming more congested, and the space underneath roads and buildings is growing tighter and tighter.

THESL field workers are noting that the company's network is becoming increasingly difficult to service due to traffic restrictions, narrow boulevards and unsafe conditions. While access to the location of the work is subject to the effects of increasing density, the infrastructure space itself is becoming highly congested. This crowding takes its toll on productivity and can create challenges for safety.

A Foundation for the Future

Clearly THESL is a more productive organization today than it has been at any time in the past. This has not come about by luck, nor by simply harvesting past investments. Instead the utility has established a three-pronged approach, by:

1. consciously constructing a methodology for cultural change;

2. advancing performance systems which ensure that change is sustained or expanded upon;

3. continuing to make long-term investments in strategic initiatives that will have a positive impact on future productivity.

This program, with a mixture of long-term and short-term elements, will provide the foundation for ongoing, sustainable productivity improvements at THESL for years to come. As such, it will allow the utility to continue to play a leading role in a time of unprecedented change.

Row	Col 1 Regulatory Cost Category	Col 2 USoA Account	Col 3 USoA Account Balance	Col 4 Ongoing or One-time Cost?	Col 5 Last Rebasing Year	Col 6 Actuals (2007), $	Col 7 Actuals (2008), $	Col 8 Actuals (2009), $	Col 9 Bridge Year (2010) FORECAST, $	Col 10 % Change in Bridge year vs Last Year of Actuals	Col 11 Test Year Forecast (2011), $	Col 12 % Change in Test year vs Bridge year	Col 13 Comments
1	OEB Annual Assessment			on-going		3,370,539	3,124,221	3,155,604	3,500,000	11%	3,400,000	-3%	
2	OEB Hearing Assessments - Applicant-Initiated			one-time		see note 1	44,907	4,641	0	-100%	see note 2	N/A	
3	OEB Section 30 Costs - OEB-Initiated			on-going		see note 1	17,430	150,888	0	-100%	see note 2	N/A	
4	Expert Witness cost for regulatory matters			one-time		195,742	376,049	85,974	190,000	121%	195,225	3%	
5	Legal costs for regulatory matters			one-time		271,355	263,163	881,605	500,000	-43%	513,750	3%	
6	Consultant costs for regulatory matters			one-time		649,601	314,696	356,526	419,400	18%	430,934	3%	
7	Operating expenses associated with Staff resources allocated to regulatory matters			on-going		1,501,287	1,094,769	1,123,292	1,410,258	26%	1,326,778	-6%	Operating costs associated with the preparation and defense of applications is comingled with the Business Unit operating budgets. The figures here are estimates. The revised (highlighted) cells now include payroll costs for Regulatory Applications & Compliance and Regulatory Policy & Relations Staff only.
8	Operating expenses associated with Other Resources allocated to regulatory matters					82,454	16,499	80,316	10,530	-87%	10,820	3%	
9	Other regulatory agency fees or assessments					0	0	0	0		see note 2	N/A	
10	Any other costs for regulatory matters - Annual Registration Fee for THESL's Distribution Licence			on-going		1,888	816	800	21,840	2630%	23,509	8%	
11	Intervenor Costs			on-going		255,046	291,890	120,043	350,000	192%	359,625	3%	
12	Subtotal					6,327,912	5,544,440	5,959,687	6,402,028	7%	6,260,641	-2%	

(1) Note that items 2, 3, 10, 11 are charged to the same expense element. Details from 2007 are difficult to recreate presently. The total amount has been provided in item 11. ($255,046)
(2) Note that items 2, 3, 10, 11 are charged to the same expense element. Information for 2011 represents the total budget for these items. ($359,625)

INTERROGATORIES OF SCHOOL ENERGY COALITION

INTERROGATORY 31:

Reference(s): C2/1/5 App. A p. 7

a) Please explain, with a worked example of results from 2009, the calculation of the Distribution Plan Capital per Unit KPI.

b) Please indicate whether THESL has considered applying the following productivity measures to performance incentives and if not why not: improvements in O&M/customer, improvements in customers served/employee, improvements in energy distributed/employee.

c) Please provide any labour productivity benchmarking related to the utility that is three years old or younger that THESL has conducted or commissioned or otherwise has in its possession or control.

RESPONSE:

a) The Distribution Plan Capital per Unit KPI is calculated by taking the total forecasted distribution plan capital program spending and dividing it by the total work units required to complete the program. The work units represent a set of tasks that must be undertaken to complete the work required for each Project within the program. Each year's program is different, having different expenditure levels in its work portfolios; new or different portfolios with differing mixes of work units making up the program; and differing costs for work units due to job-specific conditions. Consequently, the KPI target value can vary significantly year-over-year independent of the forecasted spending, and is only useful within the year of the program to track and manage the successful delivery of the work. As an example from 2009, the KPI for the Underground Direct Buried portfolio was $31.9 Million capital spend divided by 37.3 thousand units, resulting in a value of 855.

INTERROGATORIES OF SCHOOL ENERGY COALITION

b) There are a number of different measures, including the ones suggested in this interrogatory, that THESL has considered but found to be unsuitable measures for its business. O&M, number of customers, number of employees, and energy distributed are all affected by numerous factors that are not consistent from year to year; THESL has not found a meaningful way to use measures that incorporate these elements.

For example, O&M will increase during periods of workforce renewal where the capitalization of labour declines as a result of training. Moreover, specific work tasks take longer and are more costly because the transfer of knowledge on the job, getting the work done, and making sure it is done safely requires extra time. It is not until that process is complete, which can take four or more years, that task times return to more historic levels, all other things considered equal.

In addition, O&M is affected by more than just workforce renewal; it is influenced by the mix of capital and maintenance programs and many other factors which do not necessarily move in the same direction or magnitude from year to year.

c) THESL has not benchmarked labour productivity because the effects of its distribution system, work mix, workforce renewal program, and operating environment are not comparable to other utilities in the electricity sector.