

Special Edition November 2009

the distributor

AN ELECTRICITY DISTRIBUTORS ASSOCIATION PUBLICATION

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Message from the EDA Chair



John Loucks
Chair, EDA

Special Commercial Member Edition

It is a pleasure to introduce this year's special edition of the Commercial Members' Distributor, the EDA's annual salute to the contributions of our commercial company members who supply products and services to Ontario's electricity distribution sector.

Our ability to build, expand and maintain the province's distribution system is largely dependent on the many companies that provide products and services that support these efforts. The transformation of the province's electricity system in recent years has increased the demand for new products and expanded services that cater to the industry's changing needs. New commercial opportunities continue to surface as Ontario's electricity distribution sector adapts to ongoing legislative and regulatory change. It has created a dynamic commercial environment that is being driven by the demand for new technologies, innovative products and the need for expert legal and industry consulting services.

This is in addition to the integral importance of the more traditional products and services that support the wires and poles aspect of our businesses. But even on this front, new technologies are contributing to a safer LDC workforce and providing us with products that use composites and materials best suited to maintaining a modern and vibrant electricity system.

In recent years, LDCs have continued to look to the commercial sector to support distributors' Conservation and Demand Management (CDM) activities and the implementation of the government's Smart Meter Initiative. Most recently, with the passage of the *Green Energy and Green Economy Act, 2009*, the responsibilities of Ontario's distributors have been greatly expanded - including new roles in renewable generation, the development of a smart grid, and increased responsibilities in the delivery of CDM. It means that electricity distributors are looking to the expertise of a new spectrum of companies that will help them fulfill their responsibilities under the new legislation.

We can already see a growing trend in the make-up of the EDA's commercial membership. Renewable energy companies and industries that specialize in smart grid technologies, among others, are increasingly finding value in becoming part of the growing EDA family of commercial members. Exclusive access to the province's LDCs and a full slate of networking opportunities are designed to help you tap into this vibrant marketplace. It is a value proposition that more and more companies are signing onto.

On behalf of the EDA Board of Directors, I'd like to thank all of commercial, associate and affiliate members for your continuing support of the Association. I would also like to extend my appreciation and thanks to the Commercial Member Steering Committee for all of their efforts to work with the EDA to ensure the membership success of our commercial member services. I hope that all of our readers will benefit from and enjoy the editorial focus in this special edition that highlights the diverse commercial enterprises that support Ontario's LDC sector.

A large, faint background image of a hand holding a small green plant with two leaves, symbolizing growth and care. The hand is white and appears to be holding the plant gently.A handwritten signature in black ink, appearing to be 'J. Loucks', written in a cursive style.

John Loucks
EDA Chair



As the Electricity Sector Grows, **Don't be Left Out**

Get connected and take advantage of emerging **new business opportunities** with Local Distribution Companies (LDCs).

The EDA is your **direct link** to over 80 LDCs in Ontario.

Take advantage of what membership with the EDA has to offer, contact the EDA's Tanya Fobear at (905) 265-5351.

Commercial Member Steering Committee Continues to Address Priority Member Issues

Message from Steering Committee Chair Paula Zarnett

It is a pleasure to be given this opportunity to update you on the activities of the EDA's Commercial Member Steering Committee.

The Steering Committee is comprised of twelve people who represent the rich and diverse commercial base of the EDA's over 140 commercial/associate members. It acts as a liaison among commercial members, Association staff and the EDA Board, and works to improve the benefits to commercial members of their membership in the EDA.

Since the EDA's Annual Meeting in March 2009, the Committee has held five meetings. We've focused on identifying networking opportunities through EDA events; promoting member attendance/participation at these events; developing sponsorship opportunities; and, enhancing commercial member presence on the EDA website. By forming subcommittees the Steering Committee is able to explore key commercial member issues and to develop recommendations. We track our progress on these initiatives using a priority issue matrix that is updated after each meeting.

This year a new search function on the EDA member website was introduced to allow members - in particular LDCs - to perform a comprehensive search for commercial member services and/or products by keyword. The keyword search operates by identifying keywords used in the commercial member's description. With this in mind, I strongly encourage you to review the member contact sheet with your company's description, included in your 2010 renewal package. Take advantage of the opportunity to select the keywords in your company's description as the right keywords will help potential customers identify your company as the source of the product or service they are looking for.

We also looked at ways to increase the presence of commercial members at the EDA's District annual meetings. These regional fall events provide commercial members with business development and networking opportunities in informal, largely social settings. Enhanced, monthly communications to commercial members on these, and other EDA events, ensure you are receiving the information you need to more actively engage and network with LDCs.

Our EDA membership gives us great opportunities of access to Ontario's electricity distributors. This access is increasingly valuable as distributors select product vendors, suppliers and service providers to support them in their new roles and responsibilities under the *Green Energy and Green Economy Act*.

I would like to personally thank the members of the EDA Commercial Members Steering Committee for volunteering their time (Steering Committee members are listed on page 19). I'd also like to acknowledge EDA staff and Board Director, Brian Hollywood for their efforts to help us achieve results.

The input provided by the committee guides the EDA in delivering valuable services, which all members rely upon. I encourage you to contact me or any member of the Steering Committee to share your thoughts on commercial member services.

Gearing up for the Green Energy Act: the

While LDCs await regulations and Ministerial direction on the *Green Energy Act, 2009* (GEA) and conservation, are there preparatory actions LDCs should take to get ready? In addition to continuing to participate in discussions on the GEA through the EDA CDM Caucus, there are four main actions that LDCs should take. We discuss these actions within the context of the GEA and conservation and demand management (CDM), and the uncertainty surrounding the roles of the LDC.



Under the GEA the Minister of Energy and Infrastructure (MEI) will issue a directive to the OEB to establish CDM targets that distributors must meet, likely as a condition of the LDC license. When this occurs, the stewardship of CDM for LDCs will shift from the OPA to the OEB. The OEB, with advice from the OPA, will determine what portion of the LDC's target the LDC will meet through contracting with the OPA for delivering province wide programs and what portion of the target the LDC will meet by delivering programs in its own service area. This shift in stewardship will herald a greater potential opportunity for LDCs to design and deliver CDM programs tailored to their local customer needs. Although it is unlikely that we will return to the plethora of programs in LDC portfolios of the 'third tranche' days, as government direction favours program consolidation, the opportunity for more LDC driven programming signals a return to greater LDC creativity and greater diversity of LDC programming.

GEA offers LDCs a stronger role in conservation and demand management

In the current CDM framework, the Ontario Power Authority (OPA) drives electricity conservation and the LDCs act primarily as an OPA delivery agent – a program administrator of standard OPA provincial programs for LDCs. The LDC applies to the OPA to deliver one or more standard OPA programs and the OPA approves the application, resulting in a

contract between the LDC and the OPA, which includes the LDC's budget and target. While the OPA offers a custom program, to which LDCs can apply to deliver niche programs in their service territories, the OPA has approved only a small number of these. LDCs also have the option to apply to the Ontario Energy Board (OEB) for rate-based funding of CDM, however, few LDCs have selected this option because of the additional pressure on customer distribution rates that this funding causes.

LDCs and other major players need policy direction to clarify roles

The GEA also gives a stronger mandate in CDM to MEI. For example, MEI can fund conservation programs aimed at:

- decreasing the consumption of two or more fuels;
- fuel-switching;

LDC and CDM

IndEco Strategic Consulting Inc.

- decreasing peak electricity demand;
- R&D related to conservation or efficient use of fuels; and
- a specific geographical, social, income or other sector.

... the opportunity for more LDC driven programming signals a return to greater LDC creativity and greater diversity of LDC programming.

These program areas overlap to varying degrees with work already begun by the OPA and work in low-income CDM initiated by the OEB. Once the CDM components of the GEA take effect, the major players – MEI, OEB, OPA, and LDCs – will need government policy direction to clarify roles to avoid unnecessary duplication of effort and achieve energy savings as quickly as possible.

What LDCs should do now to prepare for the CDM shift

In this uncertain environment, there are four main actions that LDCs should take to increase their readiness for the impending

changes in the CDM framework. The first action that LDCs should take is to continue to deliver OPA standard programs that provide value to their customers. Continuity is important for sustaining customer interest in CDM, for meeting customer expectations, and for keeping CDM staff finely tuned. The second action is to provide enhanced CDM training for CDM staff and for staff whose functions overlap with CDM such as customer service representatives and regulatory staff. Enhanced training will increase the readiness of the LDC's staff to handle a larger CDM role. The third action is to carry out market research to identify market segments that could be served more effectively by local CDM programming. For example, there may be a need for a program for seniors or other hard to reach customers on electric baseboard heating to access incentives to purchase electric thermal storage units; or there may be a need to provide financing or other capital assistance to help the light industrial sector overcome barriers to lighting retrofits. The fourth action is to begin to work with the LDC's municipal shareholders to help them get ready for the GEA regulation that will require each municipality to prepare a CDM plan and achieve prescribed targets. Ultimately, this could lead to partnerships in local CDM programs to help achieve the municipal targets.

This shift in stewardship will herald a greater potential opportunity for LDCs to design and deliver CDM programs tailored to their local customer needs.

Taking these actions now will help LDCs gear up for when the GEA CDM components launch. ■

IndEco Strategic Consulting provides DSM program solutions. DSM expertise includes program planning, program design and delivery, monitoring, evaluation and reporting, marketing and promotion, training, stakeholder management and regulatory affairs. For more information:

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Rodan helps connect Canada's largest solar generating station, First Light

Colleen Winter

Rodan Energy made history this month when First Light, the first and largest fully operational solar energy park in Canada, opened near Stone Mills, Ontario. A joint venture between SunEdison and SkyPower the 90 acre, 9.1 MW solar farm began transmitting energy to Hydro One on September 30, 2009. Output of the park is expected to be 10 million kWh in the first year of operation.

... the first and largest fully operational solar energy park in Canada, opened near Stone Mills, Ontario.

As one of the largest solar energy services providers in North America and Canada's leading renewable energy developer respectively, SunEdison and SkyPower had experience in developing projects throughout the continent but not with the specific requirements that exist in Ontario. Rodan's experience with the RESOP, Ontario's engineering requirements and the often complex administrative process provided critical support to the three year project. Rodan's civil, structural and electrical engineering contributions included structural design, Electrical Safety Authority submissions, and applying the Professional Engineers of Ontario stamp to final documents.

"Rodan has been working hand in hand with SunEdison on electrical and structural engineering on the First Light project. They have been very helpful through all of the hurdles we came across and this project would not have been made possible without them," said Ben Kahane, Project Engineer for the First Light Project.

program is an extension of the previous RESOP program that First Light qualifies under. First Light was installed over 90 acres of land and provided its own unique set of challenges but every renewable energy project has its own requirements and with several smaller commercial and industrial projects either already connected to the grid or in the process,



Taking it Further

Taking a 9.1 MW solar park from start to finish requires technical know-how, regulatory experience, and no shortage of persistence. The three year First Light project culminated with the installation of 126,000 solar panels during one of the wettest summers on record. Proud to be part of a flag-ship project that will serve as a showcase for other communities and developers throughout Canada and the world, Rodan has added to its already extensive experience designing and implementing solar energy projects.

The recently released Feed-In-Tariff (FIT)

Rodan offers a combination of experience and expertise un-paralleled in the province.

The FIT program provides an opportunity for commercial and industrial businesses of all sizes to tap into the potentially lucrative solar energy market. With Rodan's help, challenges that appear insurmountable can be addressed resulting in a well-designed, effective solar project providing long term income. ■

For more information on how to tap into this potential resource see www.rodanpower.com/renewable-energy



Chatham-Kent Utility Services' New Green Data Centre

Chatham-Kent Utility Services (CKUS) has broken ground on a new Green Data Centre to provide information technology (IT) services, products and training to local businesses. The \$2.5 million project is expected to be up and running by the summer of 2010. The centre will be located on CKUS property at 320 Queen Street in Chatham.

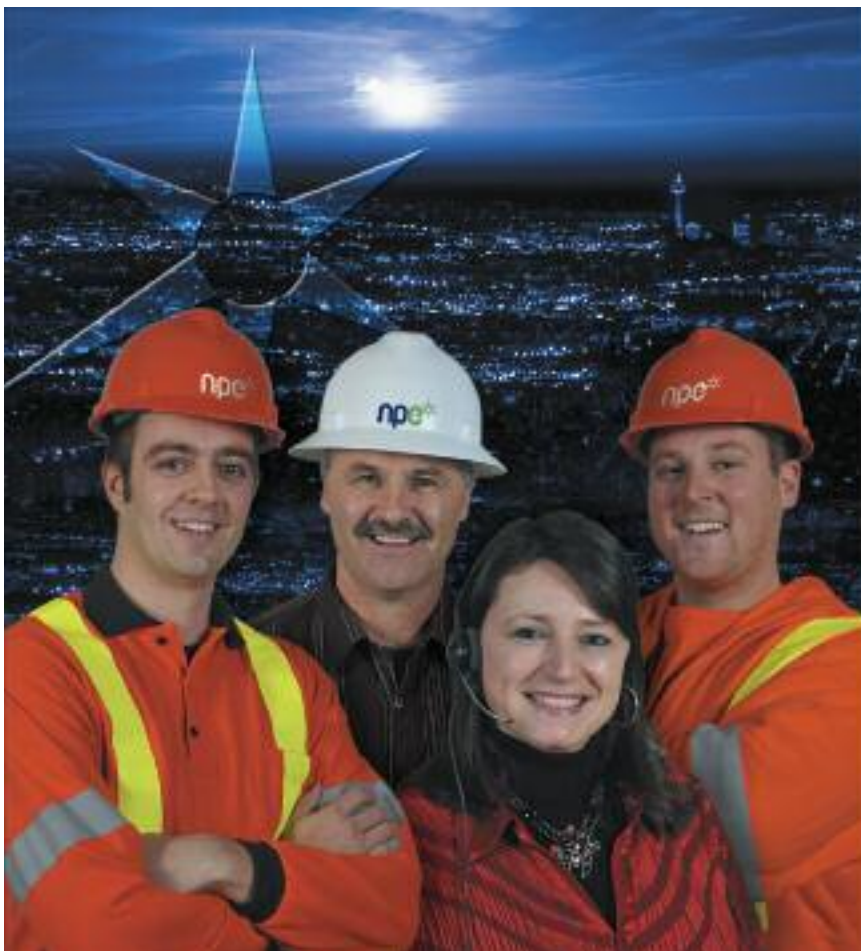
"This project will greatly enhance economic development in Chatham-Kent," said Tomo Matesic, President of Chatham-Kent Utility Services. "It will help to expand and transform the knowledge-based economy in Chatham-Kent, providing small and medium sized businesses with economically priced services and new employment opportunities."

At capacity the Data Centre is expected to create 10-15 new permanent full time positions and support the creation of 20-30 technology related jobs in Chatham-Kent. At its peak, the 6-8 month construction program will employ approximately 30 local tradesmen.

With the introduction of fibre based services to Chatham-Kent, Chatham-Kent Utility Services has a significant opportunity to expand its

services to include hosting of data and related IT services. At a time when many corporations are greatly burdened by the substantial cost and environmental challenges associated with information technology, Chatham-Kent's new Data Centre is being built as a certified "green" facility with a goal to be the first LEED certified, publicly available Data Centre in Canada.

The Data Centre, and its mechanical, lighting, electrical and computer systems have been designed to be energy efficient, environmentally friendly and to deliver a low carbon footprint utilizing low-emission building materials, sustainable landscaping, waste recycling, power management and green energy generation in the form of solar power. ■



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The Legacy of Bill 210 - Ogilvy Renault LLP

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Her face may have launched a thousand ships, but Helen of Troy has nothing on Bill 210 when it comes to setting off prolonged battles. Bill 210 can be thought of as the legislation that launched a thousand proceedings, a thousand questions, and a thousand uncertainties about the Ontario Energy Board's powers following the end of the rate freeze. In addition to our ongoing energy-related work in regulatory, litigation, commercial, and labour and employment matters, we at Ogilvy Renault have recently become Bill 210 buffs as we consider the impact of this unique legislation on current proceedings before the Board and the courts.

The Ontario Legislature enacted Bill 210 in response to consumer outcry over rising electricity prices following market opening in May 2002. In that context, it is doubtful that the government paused very long to consider the legacy of Bill 210, in particular, its impact on the Ontario Energy Board's powers once rates and the Board's rate-making authority were 'unfrozen'. Whether anticipated or not, Bill 210's deeming of all outstanding rate orders to be final orders has presented a conundrum for the Board, such as in the ongoing PILs Combined Proceeding. We all know that retroactive rate-making is clearly prohibited under accepted rate-making principles, however, Bill 210 muddied the waters by creating regulatory asset accounts to be dealt with by the Board in the future. The impact of Bill 210 on the Board's

authority to even consider matters which were foreclosed under the rate freeze is now raising questions and blood pressure across the Province.

Bill 210 can be thought of as the legislation that launched a thousand proceedings, a thousand questions, and a thousand uncertainties . . .

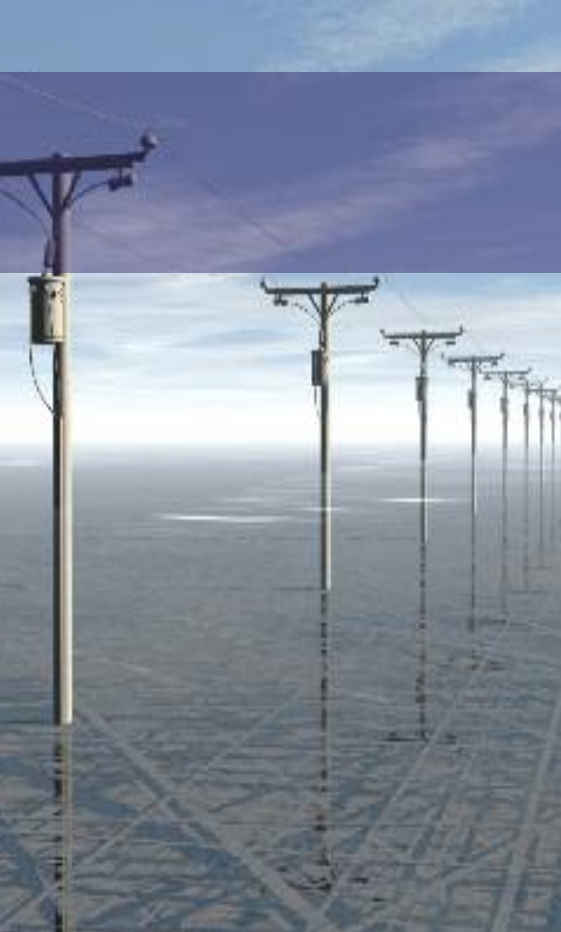
Not everyone is convinced that Bill 210 has any lasting impact on business at the Ontario Energy Board, seven years after the fact. The Divisional Court, in a recent decision now under appeal,

rejected the argument that the Board's power had been materially circumscribed by Bill 210 and described it as a "mere happenstance". The Board itself has described Bill 210 as a "legislative accident". However, Bill 210 had a clear legislative purpose not just to impose a rate moratorium, but to turn all interim rate orders then outstanding into final orders. Can it now simply be brushed aside as if it was never enacted? In our view, real legal analysis must be brought to bear on the impact of Bill 210 on the Board's rate-making authority as utilities continue to try to recover from the fiscal hangover left behind by the rate freeze.

It remains to be seen how the Board and the courts will ultimately interpret Bill 210. One thing is certain, however: Bill 210 will continue to be raised in proceedings as an impediment to the Board's power to act. Together, we must untangle the regulatory confusion that is Bill 210's legacy, one battle at a time. ■

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Useful Life of Assets in



Electrical utilities own and operate a large number of physical assets, such as transformers, overhead conductors, underground cables, switches, and poles, etc. Assets are considered to have reached their useful end-of-life (EOL) when they can no longer perform their functions as a result of long-term degradation. At EOL, corrective maintenance fixes under defect management are not physically, or economically, able to return the device to full functionality. At this point, assets either fail and are then replaced, or are replaced before they fail, to prevent potentially high failure consequence costs.

In the past when new assets were installed, their capital installation cost was amortized over a pre-determined period of time, based on the utility's historical accounting practices. This amortization period, referred to as asset "accounting life", does not always align well with the actual useful life. In fact, more often than not, useful life is longer than "accounting life", resulting in higher annual amortization costs at the beginning and zero book value, allowing no return on equity for a number of years prior to EOL.

Local Distribution Companies (LDCs) in Ontario are presently in the process of switching to financial reporting based on the International Financial Reporting Standards (IFRS). One aspect of the IFRS is a componentization approach that requires tracking depreciation of assets and their sub-components so the "accounting life" to be used will be based on the typical useful life. This presents LDCs with a need to develop a list of the assets and components that

comprise their power systems, and a process to establish an appropriate typical useful life for each. Following are some practical observations based on the long-term experience of Kinectrics Inc. in helping many LDCs do just that:

1. A detailed list of asset categories and components is LDC-specific and depends on a utility's size and asset mix, componentization principles, and historical amortization tracking practices.

Local Distribution Companies (LDCs) in Ontario are presently in the process of switching to financial reporting based on the International Financial Reporting Standards (IFRS).

2. The range of useful life for a particular asset category or a component, is the same for all the LDCs, but the specific useful life to be employed by a utility in the IFRS system will vary, depending on



Support of IFRS Reviews

Yury Tsimberg, P. Eng. and
Stephen Cress, P. Eng.

the relevant maintenance practices, utilization stresses, i.e. electrical and / or mechanical loading, and environmental conditions. LDCs need to consider these factors when selecting the useful life for their specific conditions from within the useful-life range.

3. A utility-specific useful life is NOT an average, and could be closer to either the minimum or maximum useful life value, depending on the asset category or component being considered.

The assumptions used for arriving at an appropriate useful life should be documented. It is recommended that LDCs begin recording

actual EOL timing for the asset categories and components being tracked for the IFRS purposes. These empirical data could then be used to ensure continuous alignment between the amortization period and useful life.

LDCs with a need to develop a list of the assets and components that comprise their power systems . . .

Kinectrics is an energy and environment company with a unique blend of scientists and engineers working together to provide practical solutions for customers. Kinectrics Transmission and Distribution Technologies group provides utilities with comprehensive engineering services and specialized testing capabilities for systems and components. Services include High Voltage/High Current labs. For more information:
<http://www.kinectrics.com> ■

Operational Security Assessments for EDA Members

Increasingly, operations and services delivery by EDA members require the use of Internet and Intranet services and the creation, storage and use of operational and customer information in electronic form. Also, advances in SCADA system technological capabilities now require cross-functional cooperation to ensure effective, organizationwide security is maintained.

Digital Boundary Group's experienced information and operations security professionals are experts in security status verification and have been assisting electricity producers and distributors across Canada and in the United States with their operational security assurance and compliance reporting needs.



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New Opportunities in the Green BDR: Providing Specialized Consulting



Ontario's *Green Energy Act* (GEA) removes barriers which, since passage of the *Energy Competition Act, 1998*, have prevented LDCs from directly investing in generation projects. The result is that LDCs now need to decide whether and how they will participate in opportunities for renewable energy development in their communities. They also need to develop a proactive plan for compliance with the compulsory requirements of the GEA, including CDM targets, prompt response to requests for connection of renewable generation, and implementation of the "smart grid" technologies.

BDR is excited to focus on opportunities for generation that qualify under the OPA Administered FIT and MicroFIT programs. Since participation by an LDC can require a significant level of investment of effort and funds, we recommend that discussions start

at a strategic level and include education of the shareholder(s) on the benefits, issues and risks. A strategic session facilitated by BDR would address issues such as:

- Even with the feed-in tariffs, renewable energy projects are competitive and entail risks that are different from the risks in a distribution business. What is the appetite of the LDC and its shareholder(s) to assume these risks?
- Given the risk, what level of return needs to be expected in order to go forward? Does it have to exceed the regulated rate of return?
- What capability does the LDC or its shareholder(s) have to fund a project or portfolio of projects? How long can the LDC or its shareholder(s) afford to wait for payback?

- What access do the LDC, its affiliates and its shareholder(s) have to expertise, sites, and other resources?
- What are the pros and cons of carrying out the projects within the LDC, in an affiliate, or directly within the municipality?
- What are the pros and cons of joining forces with another LDC or private sector ally?

If a strategic decision is made to proceed, an LDC's advisors should be able to assist with financing advice, preparation of a business case or due diligence review of business cases, presentations to decision-makers, preparation of detailed financial and operational plans and preparation of proposals for submission to the OPA. A business case for a portfolio of programs should include a well-developed implementation plan with resourcing, and a financial model in which cost and revenue assumptions can be tested for impact.

In deciding to undertake a renewable generation project in an LDC, knowledge of the regulatory requirements and risks will be required. Renewable projects within an LDC must be accounted for according to a recent OEB guideline that requires separation of the related revenues and costs from those of the regulated distribution business. One of the benefits of housing the business in the LDC is the ability to share management and other resources with the distribution business. The

Energy Act - Services for LDCs



LDC needs to plan early on for maintaining the data that will allow shared resources to be allocated in a way that will satisfy the OEB and intervenors when the time comes for a rate application. Our experience in rate approval processes and in cost allocation is available to serve our LDC clients.

The GEA also provides an environment where municipal shareholders of LDCs may want to re-assess an existing structure of operating companies (LDCs and affiliates) and holding companies or an existing portfolio of renewable, district energy or related activities. We are pleased to be supporting such processes in our current assignments through qualitative and quantitative analysis.

The GEA also represents an opportunity for groups of LDCs to work together to:

- Improve their understanding of the Act’s requirements;
- Educate shareholders and other stakeholders;
- Assess and potentially take action on renewable project opportunities;
- Develop and implement plans to meet CDM targets; and
- Increase their ability to respond to connection requests through resource sharing and process improvement.

BDR is pleased to support such groups with specific advice, analysis and implementation

assistance, and also with facilitation support to help the group work together effectively.

We summarize our portfolio of GEA-related services as:

- Strategic Planning and Education
- Business Plan Development
- Due Diligence Assessment of Business Plans
- Regulatory advice related to GEA
- Group Facilitation
- Capital funding & Capital Markets, and
- Working with Strategic Partners

BDR brings specialist expertise in OEB requirements and processes, and decades of experience in the capital markets necessary for funding significant new business ventures. BDR’s strengths include financial modeling of business projects, including generation projects, meeting facilitation, and preparation of clear, useful documentation.

We have found in projects related to the GEA, as in our work in the regulated sector, that having the right alliances helps us provide a complete package of services to our clients.

BDR is very fortunate to have industry allies who are ready to team with us in offering GEA-related services to LDCs: for example,

- EnerSpectrum Group, a leading project manager and evaluator of CDM programming, currently doing so in some 50 communities, including evaluative services for regulatory reporting related to CDM programming results;

- Law firms such as Aird & Berlis, and Gowlings, whose energy, regulatory and tax law expertise can make sure a new business venture starts off within the appropriate framework.

Historically, LDCs have been allowed a working capital component in their rate base of 15% of net cash expenses. In future, LDCs may have to support their working capital requirement through a “lead-lag” study.

The purpose of the working capital allowance is to reflect the investment that is made to support the delay between the payment of expenses incurred to provide service and the receipt of the revenues from the services. A lead-lag study is a detailed review of timing of these payments and receipts. The number of days difference between the delay in revenue collection and the lag in expense payments becomes the number of days working capital allowance provided. The present 15% working capital allowance corresponds to about 55 days (15% of 365 days).

BDR staff has expertise in lead-lag studies, and would be pleased to speak to any LDC that wishes or has been ordered to prepare one. For more information: www.BDRenergy.com.



The Business Case for E-Billing:

There's lots of buzz around e-billing—cost savings, environmental leadership and increased customer satisfaction—but until now, there's been no hard numbers to back up these anticipated benefits.

Recognizing the need for this information within the utilities sector, Canada Post has taken the leadership and commissioned PricewaterhouseCoopers to conduct a market study that would identify opportunities and barriers to e-bill adoption, as well as provide a cost and profitability analysis with industry benchmarks.

Canada Post will be sharing the study's outcomes with participants in an upcoming webinar (www.smartflow.ca/ebilling), but *The Distributor* is able to offer its readers with some advance details. Here, we speak with Peter Varley, Vice President, Performance Improvement Advisory Services, PricewaterhouseCoopers, about this now-complete study.

Can you share with us the scope of this study?

Certainly. We consider this to be a very comprehensive study. And as far as I'm aware, it's the first study to actually quantify the business and financial benefits of e-billing for Canadian utility companies. It involved two workstreams and took our team the best part of a year to complete.

What, specifically, did these workstreams study?

The first workstream was a cost and profitability analysis. A representative utility company was asked to volunteer to assist us with this portion. We used data extracts from

this utility's customer accounts, billings and payment history covering a two-year period from January 2007–January 2009. This data was then loaded into a robust database engine which already contained a large number of software scripts to assess the impact on cost, profitability, cash flow and the customer experience for both commercial and residential customers.

The second workstream was market research—qualitative, quantitative and benchmarking. For the qualitative research, eight focus groups were undertaken with the volunteer utility's customers to understand their perceptions and thinking with respect to e-bill and physical bill presentment. The motivations behind switching to e-billing were also explored. For the quantitative research, more than 1,200 telephone surveys were conducted to collect statistically valid and representative data on the customers' perceived benefits and barriers towards e-billing. And last but not least, the benchmarking portion of the research involved interviews with 11 companies that are currently offering an e-bill option to their customers. These interviews were important for gaining an understanding of the industry's best practices for e-billing adoption and benchmarks for current e-bill adoption levels.

As an expert in billing systems, what did you find most interesting about this study's conclusions?

The data was very clear and compelling; it absolutely concluded that there were financial benefits to e-billing. In fact, the financial savings can be quite significant as e-adoption levels increase. However, companies need to remember that when it comes to e-billing, it is not a case of "build it and they will come."

So what can utility companies do to drive up e-billing adoption rates?

One of the simplest things is an awareness campaign. Pure and simple—generate greater awareness. Our study showed that an awareness strategy alone could effectively double e-billing adoption rates because a large number of both residential and commercial utility customers just didn't know that the service was available.

After awareness, companies should focus their marketing efforts on the benefits and value of e-billing. By this, I'm referring to accessibility, availability and paper reduction. Educational messages are also essential to overcome customers' perceived barriers. Our study identified these barriers as concerns related to on-line security, ease of use, and the need for paper. Marketing the benefits of e-billing while also investing in educational messaging has been shown to have a greater impact on adoption rates than other techniques such as offering a prize or registration incentive.

In terms of assisting the migration from a paper bill to an e-bill, the study concluded with a recommendation to offer customers a three-month transition period. During this period, customers would continue to be provided with their physical bill or payment notifier as well as the e-bill while they adjust to the new service.

What best practices were discovered from the benchmarking?

Sometimes when a company provides an e-billing service, it will go it alone from their website. But what the most successful companies have found is that many customers prefer to look at and pay their bills all in one

The Results are In



From anywhere... to anyone *De partout... jusqu'à vous*

place. They don't want to have to go to the phone company website, then the hydro website, then the gas website. A dual strategy that uses both the consolidator model with biller direct works best, and results in substantially higher e-penetration rates. The benchmarking data from the top four companies in terms of e-penetration show that these companies all offered their customers more than one option for accessing their e-bill, with epost being cited most frequently as the preferred service option. Also interesting is that we're seeing a 96 per cent retention rate with the e-billing service for these customers.

Based on this study's conclusions, what advice would you have for Ontario's Electricity Distributors?

Because there is some initial investment in systems, people and communications to get an e-billing solution in place and adoption rates up, it makes sense to leverage this investment with the Smart Metering Initiative. With system changes being required by LDCs to accommodate Smart Metering, it's an opportune time to consider an e-billing implementation.

And, of course, because the Smart Meter Initiative is all about environment conservation, e-presentation of billing data fully complements this objective. Bottom line: it just makes sense to coordinate your e-billing adoption strategy with your online TOU presentation strategy. ■



- E-billing ROI goes well beyond saving paper
- 50 per cent reduction in billing costs
 - 13 per cent cut in payment processing costs
 - 1.5 day improvement in Days Sales Outstanding (DSO)
 - 12 per cent drop in billing-related customer service costs
 - 96 per cent retention rate to e-billing service



Webinar: The Business Case for E-Billing

Join Peter Varley of PricewaterhouseCoopers and Canada Post to hear all of the findings from this 2009 market study.

This webinar will cover how to:

- Convert customers to e-billing
- Overcome adoption barriers
- Maximize your e-billing ROI
- Build the business case with industry-specific data

Date: January 21, 2010
Time: 12:00 pm - 1:30 pm

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www.smartflow.ca/ebilling



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It's a Matter of Not If, Someone Hacks

Planning for the Unknowable

"The probability of hacking into Smart Grid must be assumed to be 100%, and limitations of the damage possible by such entry must be a core element of the design" (Spoonamore & Krutz, 2009). This is why change is necessary in organizing utilities around the risks and threats of cyber hacking the smart grid.

The North American electrical utility industry is facing a "paradigmatic shift" (Arbnor & Bjerke, 2009), one that is irreversible and requires a completely new way of looking at risk and harm emanating from the now smart grid. This irreversible shift is akin to letting the "genie out of the bottle" (Galland, 1709), by allowing electricity out of the bottle of one-way electron flow to electrons flowing both ways up and down the smart electrical grid.

... change is necessary in organizing utilities around the risks and threats of cyber hacking the smart grid.

This paper will present perspectives on planning for the unknowable and how today's modern electrical utility can organize itself best to deal with the harms and risks of the smart grid. This is important given that many of the risks to both security and privacy are largely unknown because of the unforeseen changes facing the entire grid.

Do "Change Models" Need to Change?

Two-way control creates many new and unique ways for cyber attacks to your grid topology. Recognizing smart grid privacy and security risks is critical because today we don't know what we don't know about the smart grid, its future capabilities, and its future vulnerabilities. The human element is what will slow down reorganizing around new risks: "there is a natural tendency among systems made up of people to resist change, even if the environment insists" (Arbnor & Bjerke, 2009).

This paradigmatic shift in the way electrical utilities must operate is irreversible and requires utilities to change how they organize security,

privacy, and risk mitigation. One well-known model for large-scale, real-time strategic change is the *whole scale change* formula for organizations. This systems view is the DVFR Formula (Danemiller Tyson Associates, 2000), which suggests that change will take place in an organization if the following conditions are in place: a dissatisfaction (*D*) with the current situation, a vision (*V*) of what the future might be, and the first steps (*F*) for attaining that vision are known. If these factors are greater than the resistance (*R*) to change, organizational change will occur: $D \times V \times F > R = C$.

So You Might Ask: "How could utilities change in order to deal with this paradigmatic, and irreversible shift?"

Danemiller Tyson Associates (2000) have stated that, in the DVFR model, "what's not included is the environment." In this case, I would argue the Genie is forever out of the bottle, electricity is flowing two ways, and *E* for environment must be included into this model. We humans suffer from something called "dynamic conservatism" (Schön, 1972), otherwise known as the "the human factor." This condition is one where the people in the utility industry may "ignore facts that influence or change the way the environment behaves and will knowingly pursue activities that help maintain (not change) the system they are part of" (Arbnor & Bjerke, 2009).

Additionally, *U* must be added to the equation because of the many unknowns that this new, complex, adaptive system could deliver. I stress the need for an open-systems view, rather than a closed-systems view, because "business is normally not interested in closed systems" (Arbnor & Bjerke, 2009), as businesses generally do not have the luxury of operating in a closed system. This new systems equation would read: $D \times E \times U \times V \times F > R = C$.

Humans dislike change, yet the new applications, software, and firmware of smart grid are forcing change upon the industry. Why not utilize systems theory to help scope the unknown unknowns of security and privacy risk to the smart grid?

We Are in a State of Inability-to-Know

We are in a condition of "Nicht - Wissen - Konnen" or an inability-to-know (Beck, 2009) many of the significant changes that change will bring to the smart grid. In order to support the required

When, Into Your Smart Grid

Gavan Howe PhD (expected 2014)
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organizational change in electrical utilities, today's leaders can take a fresh look at risk theory, and organizational theory by utilizing newer models to help deal with the uncertainties of smart grid risk. As Frank Knight wrote in his dissertation of 1921, *Risk, Uncertainty and Profit*.

"Uncertainty must be taken in a sense radically distinct from the notion of Risk from which it has never been properly separated . . . It will appear that a *measurable* uncertainty, or 'risk' proper, is so far different from an immeasurable one that it is not in effect an uncertainty at all."

Sobering thoughts written almost 100 years ago - and still highly applicable to planning for smart grid risk!

Gavan Howe sits on NERC's Smart Grid Task Force and focuses on smart grid security. Gavan Howe ©2009 ■



In order to support the required organizational change in electrical utilities, today's leaders can take a fresh look at risk theory, and organizational theory by utilizing newer models . . .

WHAT DOES "GREEN" MEAN?



The Green Energy Act is intended to secure Ontario's energy future. But for many LDCs it will mean additional work and complexity. Miller Thomson has the expertise to help you meet the requirements of the new Act and take advantage of the opportunities it presents.

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Tiltran's Scope of Services and Support

Engineering service and support:

- Form A
- Form B
- Protection and control
- Interconnection packages with HONI (Hydro One Networks Inc)
- Connection Impact Assessments for utility clients

Installation and equipment supply:

- Cables
- Terminations
- Transformers and breakers
- Collector systems, both underground and overhead
- Metering
- Sectionalizing equipment

Project management services:

- ESA interface (Electrical Safety Authority)
- Utility interface
- Site management
- Providing ongoing inspection and maintenance programs for electrical collector systems.

For more than a decade, Tiltran Services has been a key partner in renewable energy projects; first wind, then solar, and now looking forward to even more future applications.

Harnessing energy from natural sources, such as wind and the sun, are natural extensions of the company's expertise and a growing part of the Tiltran Services Inc. business model.

The company has been actively involved as a partner in both small and large scale renewable energy projects through a range of services including the supply, installation and commissioning of transformers and high voltage cables, as well as engineering services and the servicing of substations.

The Power of Wind

The company's interest in wind energy projects began more than 10 years ago with active partnerships taking off in the year 2000.

This growing energy market shows no signs of slowing down because renewable energy sources fit in as part of a global desire to cut emissions of carbon dioxide and is an important component of Ontario's new *Green Energy and Green Economy Act, 2009*.

Owner-operators of new renewable energy sites are turning to Tiltran Services for a range of services including design, engineering support, installation, equipment supply, Electrical Safety Authority (ESA) and utility interface.

Tiltran Services Inc. offers turnkey installations as a single source contractor. The company has developed strong working relationships with erectors for GE, Enercon

and Vesta turbines, as well as working closely with civil contractors who build service roads and the required concrete bases. The combined resources at Tiltran Services allow them to fully design and install wind farms being considered for Ontario's feed-in tariff programs and providing services to Request for Proposal (RFP) projects in Ontario and in other provinces.

Harnessing the Energy of the Sun

The power of the sun is a clean and appealing natural energy option and one that is just revealing its potential in Canada. Tiltran Services is already actively working with leaders in this field and looking to expand and grow along with this emerging technology.

Interest in solar energy has been steadily increasing and strides are being made to determine workable models within the Canadian landscape. Few investors in this emerging technology are experts in how to get power from its source to its end users. With more than 25 years experience as specialists dealing with electrical power systems, Tiltran Services is ideally suited to assist companies to achieve their goals within the solar energy industry.

An exciting 2008 project is a great example of how Tiltran Services is able to use its expertise to advance particular objectives. The SunSaver1 project is a 113 kW photovoltaic solar farm located near the city of Woodstock in south-western Ontario. The solar farm uses 12 active dual axis solar trackers that have multiple solar modules mounted on them.

Solutions for the Future

Sunsaver1 was awarded a contract by the OPA (Ontario Power Authority) to provide energy to the grid for a 20 year period. Tiltran Services was awarded the design, supply, and install contract by SunSaver1 which started in July 2008. Tiltran Services was pleased to join them as a partner to supply a step-up transformer, high voltage direct burial cables, interconnect disconnects and associated hardware, interconnect design, and installation services. From concept to completion, this was a four month project.

Tiltran Services was also a major contractor for Canada's largest solar generating station, First Light, launched in September 2009. The solar complex, near Stone Mills, Ontario, is able to convert enough solar energy to power 1,000 homes.

It is from successes in the new solar industry, and the amazing track record with regard to wind projects, that Tiltran Services has been able to grow its reputation as a preferred supplier within the renewable energy industry.

In November 2007, St. Thomas Holding Inc. announced that it has purchased Tiltran and its sister company, Lizco Sales, as a way to secure new revenue streams. It was the first transaction of its size in Ontario involving a municipally-owned utility purchasing a privately-owned services company. Under the agreement of purchase, the companies are run separately.

For more information on Tiltran Services Inc., visit their website at: <http://www.tiltran.com>

Highlights of Renewable Energy Projects

Kingsbridge I and II - Port Albert

Tiltran Services Inc. made its first entry into the Ontario wind energy marketplace in 2000-2001. The Kingsbridge I project involved engineering and electrical installation from turbine base to Hydro One Networks Inc. interconnection. Tiltran Services supplied and commissioned the major electrical components associated with the turbine. For Kingsbridge II, Tiltran Services commissioned high voltage cables and did the electrical modeling proof testing of the generator/turbine package from the turbine supplier.

Sky Generation I and II - Ferndale

Between 2002 and 2006, Tiltran Services worked on both phases of the project providing engineering, Hydro One Networks interconnect, site installation of the main substation, electrical distribution and equipment supply for the installation of three wind turbines. The metering of the original V-80 was modified to meet the new criteria as updated by the Independent Electricity Systems Operator (IESO).

Melancthon-Grey - Shelburne

In 2005, Tiltran Services supplied labour and materials to splice and terminate the underground high voltage cables to the 45 GSU padmount transformers of the GE SLE 1.5 MW turbines.

Prince I and II - Sault Ste Marie

Tiltran Services was responsible for the

electrical collector installation and tower wiring of 126 wind turbines, helping to create the largest single windfarm in Canada to date. Tiltran Services performed all the electrical work from each turbine to 230 KV transformer station collection points. The windfarm had two transformer stations and installation was completed within a one year period between 2005 and 2006.

Ravenswood - Goderich

In 2007, Tiltran Services designed and installed the collection system for the first 10 MW SOC (Standard Operating Contract) in Ontario connecting six Vesta V-82 turbines.

Wolfe Island Wind Farm - Kingston

In 2008, Tiltran Services provided termination & splicing of HV cables, transformer installation, wind turbine grounding for 86 Siemens 2.3 MW Units for Canadian Hydro Developers Inc.

Borex Inc. Chatham - Kent Wind Projects

In 2008 and 2009 Tiltran services completed four 10 MW windfarms for Borex Inc which included the supply and installation of the Electrical collector installation, wind turbine grounding, commissioning for 20 Enercon E-82 Units.

Sun Edison - First Light Solar Project, 9 MW Fixed Panel Solar Farm

In 2009, Tiltran Services provided the electrical collector installation, substation Installation, communications cabling, and commissioning.

K-Line Maintenance & Construction Limited: A True Safe Partner



K-Line Maintenance & Construction Ltd, a high voltage electrical service provider, was established in 1967 and is a privately owned national corporation with offices in Ontario, Saskatchewan, and Alberta. Taking pride in its managed safety system as an essential component of the business, K-Line is a premier live line distribution service and construction contractor for Ontario's Local Distribution Companies. Recognized for its managed safety, K-Line Maintenance & Construction Ltd. achieved the E&USA ZeroQuest Outcomes Level II Award in June 2009.

K-Line is a premier live line distribution service and construction contractor for Ontario's Local Distribution Companies.

This level of commitment has been recognized and embraced by LDC's across Ontario. Realizing the importance of mitigating risk and aligning themselves with a strong reliable service provider such as K-Line, Local Distribution Companies sought long term partnership models for live line distribution work. K-Line quickly became the partner of choice as it was able to integrate its resources with those of its utility partners to offset capital and maintenance programs with ease. Currently the K-Line Group provides high voltage engineering, construction, and maintenance for many large Local Distribution Companies as the value of the K-Line Partnership model expands.

The expansion and importance of this partnership model is being driven by the rapidly growing capital investments in Ontario's electricity system, partnered with the limited quantity of skilled labourers available in this trade. This has allowed K-Line to perform work on distribution systems across the province of Ontario over the last 42 years, and earn the reputation as a safe, reliable, and quality partner.

The strong relationships that exist today have been built through honesty and integrity and focusing on jointly solving problems and creating win/win environments.

K-Line quickly became the partner of choice as it was able to integrate its resources with those of its utility partners to offset capital and maintenance programs with ease.

K-LINE INSULATORS is a quality polymeric (silicone) insulator manufacturer established in 1983. Products manufactured include transmission and distribution suspension, line post and station post and specialty insulators. For more information: www.k-line.net.

Lighting Solutions



Lakeport Power has introduced a new EcoRoadway program. Everyone, including municipalities and utilities, are trying to conserve energy and reduce green house gases. With this in mind, Lakeport developed a special relationship with Brampton-based Solera to retro-fit existing customer lighting fixtures. Whether it is standard cobra head or decorative luminaires, the program offers an energy efficient solution.

EcoRoadway not only allows customers to re-use their existing fixtures, but it reduces packaging waste with specially designed containers for shipping newly retro-fitted lights and returning lights for conversion. Let's face it, the existing aluminum castings don't typically wear out, so why throw them out?

Solera has appointed Lakeport Power as their exclusive representative to cover the roadway area lighting market. Solera manufactures cobra head and decorative luminaires with a focus on the latest light sources and ballasts. The EcoRoadway program has Solera installing new light sources that include LED, Induction and new generation HID, such as T6 ceramic metal halide lamps. These sources offer savings through better lumen efficiency commensurate - with a longer life they offer a 'Green' environmental solution for both new and retrofit fixtures.

As a custom manufacturer of lighting product designs, Solera manufactures retrofit kits around any fixture already in the field. They supply samples for your installation retrofit using new technologies. These kits can bear a warranty up to 5 years when tests are approved by system manufactures.

EcoRoadway offers an innovative way for customers to keep energy savings "Green" by recycling as well as saving substantial capital costs over fixture replacement.

EcoRoadway not only allows customers to re-use their existing fixtures, but it reduces packaging waste with specially designed containers for shipping newly retro-fitted lights and returning lights for conversion.

Lakeport provides turnkey installation for any new or retro-fit lighting fixture. Until

now, converting expensive decorative luminaires to energy efficient lights meant costly change out and the discarding of old fixtures. Efficient low cost solutions are now available. As a homegrown Canadian solution with Canadian approvals, IES test reports and the warranty to back them up, the EcoRoadway program is a win-win solution for municipalities. A service for decorative pole refinishing in the field has also been added.

For several years Lakeport Power has offered customers refinishing services for energized transformers and switchgears in the field. These services avoid costly change outs, downtime and shipping costs, and restore important asset value.

Lakeport Power is always searching for innovative products for use by utilities and municipalities. The company maintains an environmental approach and exclusively promotes Shakespeare Composite Poles and PUPI Fiberglass Crossarms - both products replace wood and help reduce the environmental impact of cutting old growth trees.

To learn more about what Lakeport has to offer contact a representative at: info@lakeportpower.com or visit the website at: www.lakeportpower.com. ■



Providing Comprehensive Breaking Your IT

Ontario LDCs face a daunting task with the implementation of new customer information systems (CIS), smart meters, smart grid technology, MDM/R implementation and green energy legislation. Virtually all of these initiatives impact the LDC's back office and, invariably, its IT systems, resources and budgets. The juggling of requirements, licensing, quality and staffing can make software development and IT budgets challenging to manage successfully. There are many variables for a project manager to consider before finalizing a budget and kicking off a project. In this article, we will focus on the quality assurance-related aspects of the software development lifecycle, and briefly discuss some open-source or low-cost tools that can be used in place of more expensive commercial products. We will also look at how a properly selected approach, combined with open-source tools, aids the overall success of the project by keeping costs low while still maintaining a high level of quality.

Why a modern, comprehensive quality assurance approach is critical to a project's success

When considering overall project success, it is important to consider the methodology and approach used to implement the project. A modern approach, such as Agile, has a number of important benefits when compared with more traditional approaches such as the waterfall method. The Agile approach is more customer-focused, allowing the project to develop before the customers' eyes. It divides the implementation of project features into smaller mini-projects called sprints, and gives stakeholders the ability to influence what will

be accomplished in each sprint. This method of splitting the project into smaller sections allows problems to be detected early in the project instead of at the end, as would be the case with a traditional waterfall-based approach. It also allows for more immediate stakeholder input. This gives the customer more opportunity to readjust and reprioritize their requirements while still allowing developers and testers the time to implement the changes. With the Agile approach, completed features are tested in sections in a similar manner to which they are coded. This method reveals defects in the code early, allowing them to be corrected before advancing to the next sprint.

Virtually all of these initiatives impact the LDC's back office and, invariably, its IT systems, resources and budgets.

Another feature of the Agile approach is the method in which coding and testing estimations are made. In an Agile project, a planning "poker" session is conducted before each sprint begins. The planning poker session requires team members to individually estimate each of the tasks required to complete a sprint, with a business domain expert present to answer any questions related to requirements. In cases where there are widely varying estimates for a

task, the team members must be prepared to justify their estimates, and then provide new estimates if necessary. The objective is for the team to arrive at a single set of estimates that they mostly agree upon. While this may seem a roundabout way of achieving an estimate, it has been shown to result in considerably more accurate and consistent estimates than the more traditional method of using the individual opinions of one or two team members.

What are some tools and standards currently used in quality assurance?

Open-source technologies are becoming increasingly popular in many organizations because, being free of license fees, they can significantly lower software development and testing costs. In addition, open-source tools allow licensees to modify and redistribute the tools. Some effective and popular open-source or low-cost testing-related technologies include:

- Apache JMeter: Provides functional and load-testing of web applications.
- JIRA: A defect/issue tracking system which, when used with a companion product called Greenhopper, also provides sophisticated Agile project management functionality.
- Subversion: a source code version control system.
- Hudson: A continuous integration system that can automatically build and test projects at predetermined intervals or

Software Quality Assurance without Budget

The SPi Group Inc.

when code check-ins are detected.

- EMMA: A code coverage measurement and reporting tool that reports on how much code has actually been executed during testing.

While it is vital to use tools such as those mentioned above for testing, it is equally important to employ consistent and standardized approaches to testing and to leverage other available technologies, such as hardware virtualization. Virtualization is used to create standard test environments that can be easily copied and destroyed as needed. Cloud computing environments, such as Amazon's Elastic Compute Cloud, extend the virtualization concept to allow users to purchase virtual computing time and resources from an almost unlimited pool. The use of virtualized environments dramatically reduces the effort required to perform the traditional build and tear-down of physical machine-based test environments. When the same tests are executed repeatedly, automating them can ensure repeatable results with minimal effort and less chance of human error. Providing standardized templates for test cases allows testers to readily understand data and results from different teams or team members.

How do these approaches and tools support the goals of quality assurance?

The basic goal of software quality assurance is to help ensure that a software product or service functions correctly and meets the customer's requirements and budget constraints. In order to maintain a reasonable

budget, costs can be reduced by:

- Using open-source software such as Subversion or EMMA.
- Virtualization and use of cloud computing which can dramatically reduce capital hardware costs and reduce dependencies on internal IT resources.

High overall software quality can be achieved by:

- Automating test cases using tools like JMeter or Hudson to ensure repeatable and consistent test suites that can be used later for regression testing.
- Implementing Agile methods to ensure that customer requirements are met accurately **and** efficiently.

A project's timeline can be met by:

- Using an Agile software lifecycle to respond to issues and concerns as they arise and while there is still time to address them.
- Automating test cases to minimize time spent on repeatable tasks.

Using these approaches and tools in a cohesive and structured manner can greatly increase the chance that a project will meet its timeline and deliver software that will address a customer's functional and quality requirements in a cost-effective way.

By: Clarissa Cheung, Quality Assurance Analyst, Lee Naylor, Quality Assurance Analyst, and Tim Fry CIO, The SPi Group Inc.

The SPi Group Inc., wholly owned subsidiary of ERTH Corporation, provides innovative technology solutions to evolving energy markets. SPi's team of highly skilled IT and energy professionals offer a complete portfolio of back-office products and services to address the challenges faced by utilities and retailers.

ERTH Corporation is a dynamic family of energy companies with a strategic vision to grow and invest in parallel businesses that all serve North America's energy and utility industries. The group's electricity distribution, services, consulting and software companies, service over 180,000 customers in Canada and the United States. ■



Elster's EnergyAxis Unifies the Smart Grid with Field-Proven Solutions



Elster's EnergyAxis® System delivers a proven two-way communications network and Smart Grid solutions that are field-tested in real-world utility environments. For demand response, grid modernization, outage detection/restoration, revenue protection, and a host of other utility requirements, the system is designed and architected to expand for future smart grid requirements. Customized solutions seamlessly integrate with utility enterprise systems and distribution networks.

From the management system software to the widest selection of distribution network and in-premise devices, EnergyAxis solutions offer the functionality, reliability and security that are meeting and exceeding the needs of electricity utilities in:

- Demand Response - Empowering consumers to conserve and manage their energy use through in-home displays, smart thermostats and appliance control devices linked to the meter, which support time-of-use and peak pricing programs.

- Grid Modernization - Improving overall grid reliability and performance by enabling utilities to cost effectively place communicating sensors and controllers at distribution system locations that could not previously be monitored.
- Outage Management - Minimizing field response time and improving customer satisfaction by collecting and reporting outage and restoration information as it happens.
- Voltage Conservation - Enabling utilities to implement voltage conservation initiatives while maintaining the required level of service by collecting voltage measurements from strategic feeder locations and providing alerts if voltage levels exceed thresholds.
- Renewables and Distributed Generation - Facilitating the interconnection and control of renewable energy sources such as solar and wind. Ready to serve developing technologies such as plug-in hybrid vehicles.
- Power Quality Monitoring - Enabling utilities to take proactive action to improve the quality and reliability of utility service delivery by monitoring and reporting power quality events such as voltage sags, surges and momentary outages.
- Revenue Protection - Providing remote connect/disconnect, pre-pay, tamper detection, and other applications that reduce non-technical losses and cut LDC operating expenses.

EnergyAxis is engineered on open standards,

interfacing with a range of third-party technologies, to provide LDCs with the widest choice of communication paths - from IP, cellular, WiFi or whatever system the utility wants to use.

Burlington Hydro has selected Elster's EnergyAxis® System to support the utility's GridSmartCity™ vision. GridSmartCity is Burlington Hydro's initiative to begin transforming the electricity system into the smart grid of tomorrow. With GridSmartCity, Burlington Hydro is accelerating the process by partnering with technology developers and other interested firms to combine all the major elements of a smart grid into an integrated suite of projects that will demonstrate the full capabilities of a smart grid. As part of the GridSmartCity initiative, Burlington Hydro is installing EnergyAxis smart meters, related communication equipment and back office systems with installations expected to be completed in 2010.

The EnergyAxis System is already employed by other Ontario LDCs and currently gathers more than a million meter points of hourly billing data from a wide range of residential, commercial and industrial Ontario energy consumers. ■

Elster Metering is a global leader in smart metering and smart grid system solutions. Elster's EnergyAxis System is designed to work in multi-utility applications, supporting residential, commercial and industrial applications. For more information, call (905) 634-4895 or visit the website at: www.elster.com.

CROSS-OVER:

Power Savings Blitz and ERIP Work Better Together



There's a lot to like about the Power Savings Blitz (PSB) and Electricity Retrofit Incentive Program (ERIP). Both programs:

- upgrade facilities and improve competitiveness at a time of economic challenge,
- give a boost to local trades and suppliers,
- contribute to Ontario's energy efficiency goals.

However, ERIP has sometimes been the wallflower to PSB's full dance card, with both contractors and LDC customers. It's partly because PSB is open to the legion of small business customers (GS<50kW), which are more plentiful than the large commercial, industrial, and infrastructure customers that qualify for ERIP. LDC targets for ERIP installations are typically lower than the more urgent PSB targets, with their "blitz" approach to customers.

But ERIP shouldn't be forgotten. It was one of the original business retrofit incentive programs started by the largest LDCs during the Third Tranche CDM regime, and later launched provincially by the OPA. It has

worked well for business customers, and has contributed critical peak demand load reductions. The challenge -- and the opportunity -- is to leverage both programs with contractors, and to be more proactive with larger customers.

There's a lot to like about the Power Savings Blitz (PSB) and Electricity Retrofit Incentive Program (ERIP).

"Contractors need to see both programs as venues for their services," says Ray Nyhuis, who conducts joint PSB – ERIP sessions for local contractors on behalf of PSB and ERIP sponsoring LDCs. "If you can change out 20 T12 light sets and ballasts for T8 under PSB, you can likely change 200 in a larger facility for ERIP. There are more technologies on ERIP's Prescriptive

List, but a significant number of contractors are up to the task, either individually or with partnering," says Nyhuis, who has more than 25 years in general contracting. He currently manages a network of local contractors for Burman Energy Consultants Group Inc. (formerly EnerSpectrum Group Inc.), a company that evaluates and implements applications under the PSB and ERIP programs for some 39 LDCs.

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CROSS-OVER:

Power Savings Blitz and ERIP Work Better Together

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"Our role is to help local contractors realize the opportunities available and LDC customers the benefits of participating in these programs," adds Nyhuis. "For example, we assist both the contractor and the customers with the application process, which can be complex for an ERIP Custom Project." Nyhuis has also helped local contractors embrace the marketing and completion of assessments, avoiding surprises associated with difficult installations that can occur with third party assessment. A customized spreadsheet also allows contractors to quickly estimate costs, savings, and payback that move the customers to a "yes" sooner.

The challenge -- and the opportunity -- is to leverage both programs with contractors, and to be more proactive with larger customers.

Finally, perhaps the biggest advantage for contractors is in the economies of scale. ERIP projects usually have this advantage because facilities are typically larger than for small retail PSB. However, the same economic principle can be applied to PSB. With multiple PSB installations, contractors are encouraged to bulk purchase equipment and plan logistically to get the work done time-efficiently. That's when PSB pays the best return to local contractors, not on individual jobs.

"It's all about knowledge transfer," says Nyhuis. "When we help them get and process the orders, and do installs on a more efficient basis, they become better contractors. Best of all, they are a ready resource when the next program comes along." ■

For more information, Burman Energy Consultants Group Inc. (formerly EnerSpectrum Group) can be reached at (416) 219-9976.



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C.C. (Charlie) Macaluso

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