

Enersource Corporation – Corporate Risk Assessment 2011

Risk Aspects for 2010 reviewed by management in November 2011

- Risk Assessment:**

In the August, 2011 Audit Committee, a presentation was made of management's consideration of the highest risks to Enersource. The Audit Committee asked for some further consideration and asked that management broaden its overall risk assessment re health and safety compliance and wires asset and network sustainability as part of its 2011 work.

The Director - Internal Audit and Enterprise Risk has met with each executive and director individually to ascertain new and changing risks and relate the risks to their objectives. A workshop was held with the same group in October to review an updated risk register that now has approximately 300 risk with the view of reorganizing and reprioritizing risks based on both inherent and residual risk. A further workshop was held on Nov. 22, 2011 and the risks have been prioritized as follows.

Rating for Significance, Probability and Control Factor for each risk

	Significance		Probability		Control Factor
5	Catastrophic -Fatality, Loss of (> \$5 Million) Complete system shutdown	5	Certain to Occur	5	Foolproof
4	Severe - (\$2 - \$5 million) – Large spill – fines from MOE	4	Very Probable To Occur	4	Strong
3	Major - (\$500K - 2 million) - Lost Time Injury,	3	Likely To Occur	3	Moderate
2	Moderate - (\$100K - \$500K) Small spill	2	Somewhat Likely To Occur	2	Weak
1	Small Impact - (less than \$100K)	1	Remote -Not Likely to Occur	1	Non-existent

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Risk Exposure of Significance & Probability
 $(\text{Significance} + \text{Probability}) / 2 = \text{Risk Exposure}$

$\text{Residual Risk (Gap)} = \text{Risk Exposure} - \text{Control Factor}$

Recommended actions for Residual Risk Score

Score Risk mitigation actions

- 4-5 Immediate Action to Control Risk. Process/Action/Work Stopped until Measure taken to reduce risk have been taken.
- 3-4 Mitigation actions to reduce the likelihood and seriousness to be identified and implemented as soon as possible.(3 month maximum)
- 2-3 Mitigation actions to reduce the likelihood and seriousness to be identified and appropriate actions implemented during next 6 -12 months.
- 1.5-2 Mitigation actions to reduce the likelihood and seriousness to be identified and cost determined for possible action if/when budgets permit. Monitor key statistics.
- <1.5 To be noted - no action is needed unless grading increases over time.

The following detailed discussion of risks and their remediation covers those risks evaluated to have an inherent risk >4 or a positive residual risk >1.5.

For 2012, it was the consensus of the group to update specific reviews for IT, Meter to Cash, Supplier Interdependencies and do a more detailed focus group on the Regulatory area.

Any additions or deletions or significant changes in ranking of the top risks should be reported at each audit committee along with a key measurement indicator for each of the top risks.

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RISK REGISTRY – Highest Inherent Risk >4

Updated for 2011

Description of Risk	Significance	Probability	Control Factor	Inherent Risk Exposure	Residual Risk
Injury While Working with Energized Equipment	4.6	3.9	4.2	4.3	.1
Regulatory – Changing regulations	3.9	4.3	2.5	4.1	1.6

RISK REGISTRY – Highest Residual Risk > 1.5

Updated for 2011

Description of Risk	Significance	Probability	Control Factor	Inherent Risk Exposure	Residual Risk
Transformer oil – leak or spill	3.0	5.0	2.0	4.0	2.0
Hydro 1 – loss of supply	3.9	2.6	1.6	3.3	1.7
Regulatory – Changing regulations	3.9	4.3	2.5	4.1	1.6

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Injury While Working with Electrical Equipment

Hazard Description ~ Accidental contact with energized equipment would cause serious injury or fatality from burns or shock.

Mitigation Actions ~ Only qualified employees or those working under the direct supervision of a fully trained and qualified employee work on or within proximity to energized equipment. Employees required to work on or near energized apparatus are issued a copy of the Electrical Utilities Safety Rules and receive training on the rules. Several Safe Work Procedures have been developed and implemented for several high risk tasks. We have added a flame & impact resistant face shield to our personal protective equipment inventory. All electrical incidents and accidents are reviewed with the overhead, underground and substation departments during their monthly safety meetings.

Measurement Criteria – Number of electrical incidents reported including near misses. (already reported to HSS&E committee)

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Regulatory Risk

Risk Description ~ Changing laws and regulations could threaten the company's ability to efficiently conduct business and to earn a profit.

Mitigation Actions ~ Enersource Hydro Mississauga has developed strong relationships with the Ontario Energy Board, and valuable access to the Ministry of Energy. Key Enersource staff are knowledgeable about, and have the ability and opportunity to influence changes to the OEB's codes and other requirements. We have expanded and upgraded the capability of our Regulatory Affairs department, as well as the Rates department, in recognition of the significant risk in this area of our business. The combination of these activities should serve us well in mitigating regulatory risk.

In addition, the executive devotes significant attention to the management of these risks through the use of steering committees. A steering committee is in place for regulatory affairs, as well as for smart meters and time of use pricing, conservation and demand management programs as well as the Green Energy Act strategy and compliance. These committees are chaired by the CEO.

Measurement Criteria – Description of regulatory changes that could have major impact on company operations.

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Transformer Oil Leaks

Risk Description ~ Environmental damage would result if there was no prevention, detection or clean up of leaked transformer oil as it is considered a hazardous waste under environmental law. There is also potential for reputational damage in the local area if spills are perceived to happen frequently and/or not properly remediated.

Mitigation Actions ~

Enersource installs spill dams around new and refurbished substation transformers.

There are inspection and maintenance programs for transformers which are determined through asset management planning.

Enersource employees are trained on environmental policy and spill reporting criteria. The policy requires employees to clean up spills to best of their ability when it is safe to do so. All spills are reported upwards to supervisors and if reporting criteria are met, to environmental authorities. Professional spill contractors will be utilized if the spill is larger than can be handled efficiently by Enersource personnel.

All spilled contaminants are recovered and properly disposed of.

Enersource service vehicles are equipped with spill kits.

Enersource installs spill dams around new and refurbished substation transformers.

Measurement Criteria – Number of oil spills (already reported to HSS&E committee).

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Hydro 1 – Loss of Supply

Risk Description ~ Interruptions on the 230kv Bulk Electrical System which feeds Enersource can cause customer interruptions. They can occur when maintenance issues, supply issues from OPG, extreme ambient temperatures affecting loading and other extreme weather conditions arise. Hydro One supplies Enersource's entire power system from ten Transformer Station (TS) delivery points located through out the City of Mississauga.

Mitigation Actions ~ EHM does not have any generation capability and Hydro One supplies the entire City. EHM therefore has a number of indirect mitigation actions it monitors and institutes. Hydro One and EHM have qualified and well trained staff ready to respond to make necessary system operations and repairs to restore power to customers. These include 24 hour 7 day a week control room and emergency response coverage. Additional staff can also be called in to assist as needed.

Each Hydro One owned TS has by design dual elements. These include dual transformers, dual buses and dual 230 KV supply to them to mitigate 230kV supply, loading and equipment issues. Similar to EHM, Hydro One also has a comprehensive maintenance program to address problems before they occur on the bulk system and are constantly reinforcing the system through extensive capital work.

EHM has numerous links and switches (including some automation) on the system that would allow for switching to be done to move load to possible alternative feeds or other TS's as needed in case of a major issue at a given TS.

Overall system loading is reviewed by EHM on a yearly basis to ensure that the City has adequate supply. Churchill Meadows TS, which will be in service on August 31, 2010, will provide additional 44kV capacity and flexibility of operation. A new GTA West system study is also being conducted by Hydro One in Q1 of 2010. It will review any other loading requirements that we or neighbouring utilities may have. EHM will need 27.6kV North capacity. EHM's Mini-Derry TS is being enhanced to help out in the event of heavy loading in the summer.

CYME, a load flow program, is being used by EHM's System planning department to optimize the EHM system where possible recommend new capital requirements.

Measurement Criteria - Number of bulk system issues that have affected the City (already tracked by EHM's Reliability department)

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Top 25 Risks Ranked by Highest Inherent Risk

Risk Category	Risk	Significance	Probability (no controls)	Inherent Risk	Control Factor	Residual Risk
H&S	Injury While Working with Energized Equipment - electrical contact/shock/burn	4.6	3.9	4.3	4.2	0.0
Exec/Dir Interviews	Regulatory - Changing regulations threaten the company's competitive position and its capability to efficiently conduct business.	3.9	4.3	4.1	2.5	1.6
Environmental	Transformer bulk oil below <50 ppm - Potential for leak or spill	3.0	5.0	4.0	2.0	2.0
H&S	Driving Hazards -motor vehicle accidents	4.3	3.7	4.0	3.9	0.1
H&S	Working in Confined Space - deficient atmosphere/asphyxia	4.6	3.4	4.0	4.1	-0.1
H&S	Injury Resulting from working at Heights - falling	4.5	3.5	4.0	4.3	-0.3
Infrastructure	Cables & Splices	3.9	4.1	4.0	3.2	0.8
Meter to Cash	Accounts Receivable Credit Risk	4.0	4.0	4.0	3.0	1.0
H&S	Operation of an Aerial Device, Crane or Radial Boom Derrick -	4.5	3.3	3.9	4	-0.1
H&S	Cutting - Trimming Trees - struck by falling limbs, chainsaws.	4.2	3.5	3.9	3.9	0.0
Exec/Dir Interviews	Audit function in CC&B not turned on	2.6	5	3.8	3.4	0.4
H&S	Operation of a Forklift - struck by/ stability/ tipping	4.1	3.5	3.8	3.6	0.2
H&S	Breaking the Surface - electrical shock, explosion, burns from	4.3	3.3	3.8	4	-0.2
H&S	Earth Work - Trenching - Collapse of earth/civil structures	4.5	3.1	3.8	4.1	-0.3
H&S	Qualifications of Sub-Contractors	3.3	4.1	3.7	4	-0.3
H&S	Work Area Protection - being stuck by vehicular traffic	4.4	2.9	3.7	4	-0.4
IT	Firewall Breach	4.7	2.6	3.6	4.0	-0.4
Environmental	HPS lamps (Hg content) - Disposal of Hazardous Waste	3.0	4.0	3.5	2.5	1.0
Environmental	PCB Oil >50 ppm - Stored in Disposal area - up to 18,000 litres -	3.0	4.0	3.5	3.0	0.5
Environmental	Use of UST for storing used oil - Potential for leak or spill	3.0	4.0	3.5	3.0	0.5
Environmental	Fuel Use for fleet - Air Emissions	2.0	5.0	3.5	3.8	-0.3
Environmental	Arsenic or Other Contamination in Ground (Historical Weed C	5.0	2.0	3.5	3.8	-0.3
Environmental	Use of underground storage tanks (2) to store diesel and	3.0	4.0	3.5	3.8	-0.3
IT	Current site - Stavebank	3.3	3.7	3.5	2.4	1.1
H&S	Injuring the Public	4.5	2.3	3.4	4.1	-0.7
Meter to Cash	PIPEDA breach issues	4.0	2.8	3.4	3.4	0.0

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Top 25 Risks Ranked by Highest Residual Risk

<i>Risk Category</i>	<i>Risk</i>	<i>Significance</i>	<i>Probability (no controls)</i>	<i>Inherent Risk</i>	<i>Control Factor</i>	<i>Residual Risk</i>
Environmental	Transformer bulk oil below <50 ppm - Potential for	3.0	5.0	4.0	2.0	2.0
Interdependency	Hydro One Networks grid - supply of power	3.9	2.6	3.3	1.6	1.7
Exec/Dir Interviews	Regulatory - Changing regulations threaten the company's competitive position and its capability to efficiently conduct business.	3.9	4.3	4.1	2.5	1.6
Infrastructure	Problems in bulk electrical system	3.9	1.6	2.8	1.4	1.4
Infrastructure	Weather	3.1	2.8	3.0	1.7	1.3
Corporate	Sovereign/Political - Sovereign/Political environment changes impact the company through requiring it to operate in a different environment with changing priorities.	3.4	2.7	3.1	1.8	1.3
MS/TS	Cooksville - TS - 13 critical customers	3.8	1.8	2.8	1.7	1.1
IT	Current site - Stavebank	3.3	3.7	3.5	2.4	1.1
Meter to Cash	Accounts Receivable Credit Risk	4.0	4.0	4.0	3.0	1.0
Environmental	HPS lamps (Hg content) - Disposal of Hazardous W	3.0	4.0	3.5	2.5	1.0
H&S	General Workplace Activities - slips and falls	2.0	4.0	3.0	2.0	1.0
Environmental	Line losses (configuration of system) - Energy Usage	1.0	5.0	3.0	2.0	1.0
Environmental	PCB Oil >50 ppm - in transformers in field - up to 2	2.0	4.0	3.0	2.0	1.0
Interdependency	IBM - maintenance on hardware equipment - Risk is loss of support if hardware fails, unavailability of core computer systems support when it is needed	3.8	2.3	3.1	2.1	1.0
Infrastructure	Cables & Splices	3.9	4.1	4.0	3.2	0.8
Infrastructure	Hydro 1 infrastructure issues - transformer stations not coming on line on time	3.3	2.2	2.8	2	0.8
Interdependency	Oracle	3.5	2	2.8	2	0.8
Interdependency	Oracle - Maintenance of Database, JDE and CC&B systems Risk is loss of support for major business systems	3.5	2	2.8	2	0.8
Interdependency	Telus - VOIP phone and Call Center phone service	2	3	2.5	1.8	0.7
Interdependency	Cooper/Cannon Technologies - Yukon software license - system in place at our office to control the peaksaver thermostats.	3.3	2	2.7	2	0.7
Interdependency	IESO	3.8	1	2.4	1.8	0.6
Meter to Cash	Customer approval or payment not received	3.2	2.6	2.9	2.4	0.5
Environmental	PCB Oil >50 ppm - Stored in Disposal area - up to 1	3.0	4.0	3.5	3.0	0.5
Environmental	Use of UST for storing used oil - Potential for leak o	3.0	4.0	3.5	3.0	0.5
IT	Quality Assurance	3.7	2.7	3.2	2.7	0.5

