

Enterprise Risk Management at

hydroOne



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Summary

1. Background on Hydro One
2. Motivations and Commitment
3. Developing an Approach
4. Challenges
5. Our ERM Process
 - a. Risk Tolerances
 - b. Risk Profile
 - c. Resource Allocation
6. Future Phases and Benefits



Background on Hydro One

- Ontario's primary electricity transmission & distribution company
- One of the largest Tx companies in N.A.
- \$11 B of assets
- \$4 B of annual revenue
- \$1 B annual capital and maintenance spend
- 4,000 employees



Notice - What ERM is not about

- Sarbanes-Oxley/Bill 198
- Compliance
- Audits
- Regulations
- Performance Measurement
- Credit/Market or Operations Risk

Notice - What ERM is about

- Good Governance
- Good Management
 - Agreed objectives and risk strategies
 - Future Outlook
 - Prioritization of objectives and risks and mitigants
 - Resource allocation based on risks
 - No surprises

Motivations - Is there a need in your organization?

- Degree of change in the organization and/or the industry
- Degree of change in senior management
- Appetite for:
 - governance (actual and optics)
 - clarity of decision making



Drivers for ERM

- Intellectual thinking (see readings at end)
- Corporate Governance (led by Cadbury, Dey and COSO in mid-1990's)
- Scandals, surprises and reactions:
 - Barings Bank
 - Sarbanes Oxley
 - Rating Agencies
 - Director Colleges
 - Recent Media Attention
- Professional Associations (actuaries, insurance, IIA)

Risks Identification

“There is no point getting into a panic about the risks of life until you have compared the risks which worry you with those that don’t but perhaps should.”

Rothchild

Quoted by Felix Kloman in Risk Management Reports - Vol. 31 No.

10 - October 2004

Reflections on Risk Management:

“A means to stimulate imagination combined with a deep understanding of the business.”

“A method of accumulating and sharing what is accumulatedincluding a common language.”

“...overly complex methods are likely never to be fully implemented, or, if they are, to generate a lot of resentment, non-compliance and workarounds.”

“...the minutia will be well-managed at great cost while ignoring the big picture, especially the future types of risks.”

“Multiply the very small probability of “X” by what it means to be out of business as a result of “X”, and the answer is not that you are partially out of business.”

David McNamee - October 2004 - Internal Auditor Magazine

2000 - The Changing Electricity Marketplace



- Unprecedented change within the industry (re-regulation, commercialization, reorganizations)
- Ontario Hydro broken up in 1999
- Debt no longer guaranteed
- Aging workforce and different skill needs
- For 2002: IPO and Market Opening



History of ERM at Hydro One

- Previous attempts with highly visible use of consultants
- ERM in Strategic Planning Group
- Organizational realignment with CFO in 1999
- New staff brought in to ERM Group
- Can the Head of Internal Audit be the CRO?
- January 2000 - New Beginnings

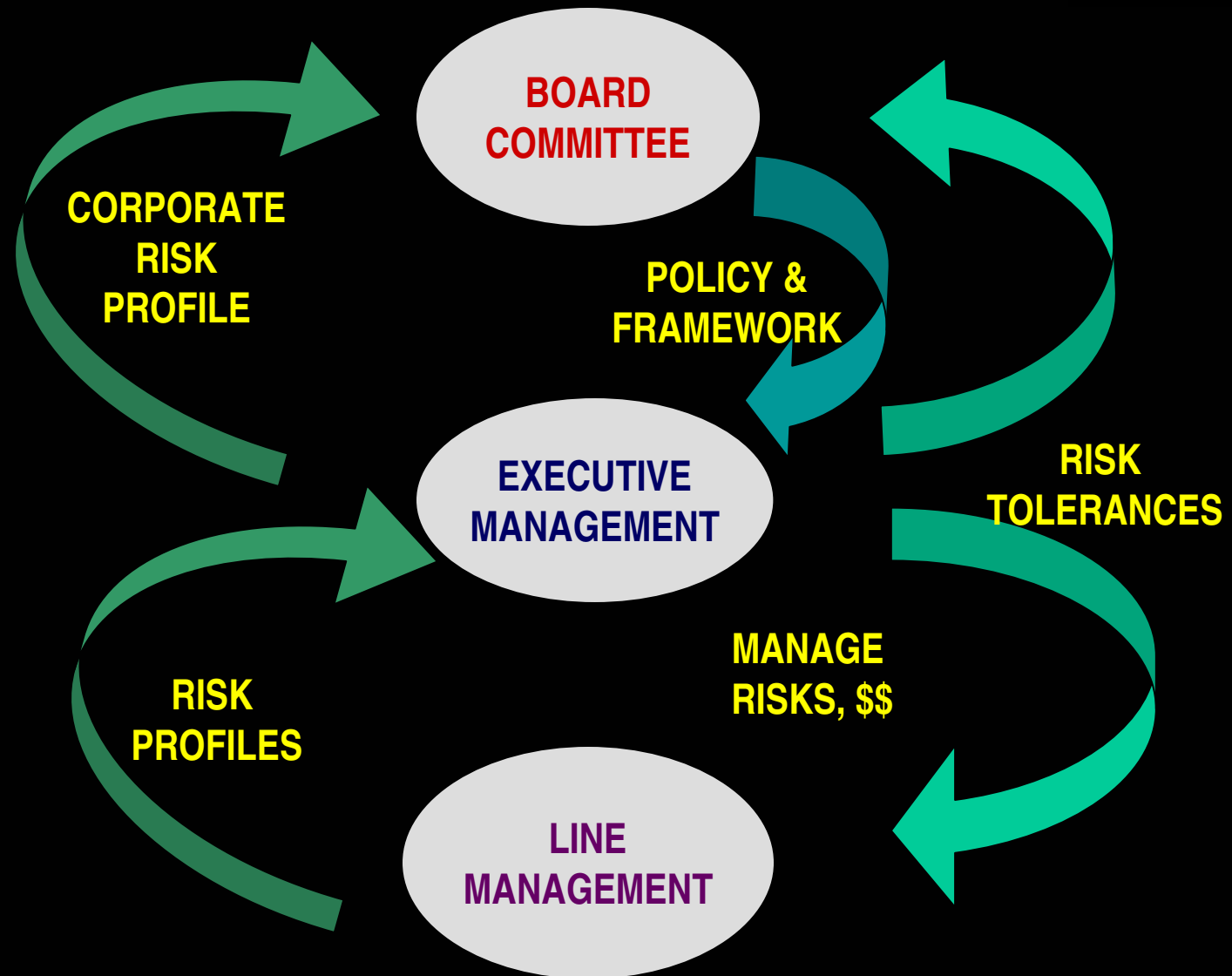
Risk Management at Hydro One (Aug 2000)

Value	Risk Specialization	Enterprise Risk Awareness	Risk Management Integration	Risk/Mitigation Optimization
	Senior Management and Board of Directors' information needs evaluated;	Risk Profile refined (focus is on residual risks and tolerances);	Corporate performance measures refined to recognize risk tolerances and priorities;	Clear ties between stakeholder value and risk management activities;
	Preliminary risk profile developed;	Regular reporting to Senior Management and Board of Directors established;	Risk assessment and prioritization fully embedded in business planning;	Comprehensive risk portfolio created; new risk exposures identified early; appropriate priority and mitigation determined quickly;
	Policies established or refined;	Corporate risk assessment embedded in business planning process;	Risk profile interdependencies recognized;	Risk management embedded all key business processes, including strategic planning;
	Standard terminology, techniques, documents established;	Local risk owners identified; local risk management expertise identified; skills and knowledge transfer occurring	Local risk management processes fully active	Local risk management processes fully aligned with Corporate objectives
	Functional unit accountabilities clarified			
	6 months	12 months	18-24 months	24-48 months
	 Complete			 Partially Complete
	Process Sophistication			

ERM at Hydro One

- ERM Policy:
 - “ERM provides uniform processes to identify, measure, treat and report on key risks”
 - This is the umbrella policy under which all other risk policies fall
 - Key principles: includes portfolios of ALL types of risks, integrated with strategic and business planning, annual risk assessments
 - Key accountabilities: Audit & Finance Committee, the President, CFO, Management and CRO
- ERM Framework:
 - Establishes the basic process for all risk assessments

The ERM Process at Hydro One



Challenges

- New definitions
 - Magnitude (largest credible risk)
 - Controls (when executives are involved)
 - Risk Trends
- Agreeing “Risk Tolerances” with executives and board
- Staffing (showman and analyst)
- Software selection (Delphi, Roll-Up)

Worst Case:

- threatens the survival of Hydro One Inc. in its current form

Major:

- significant deterioration in results

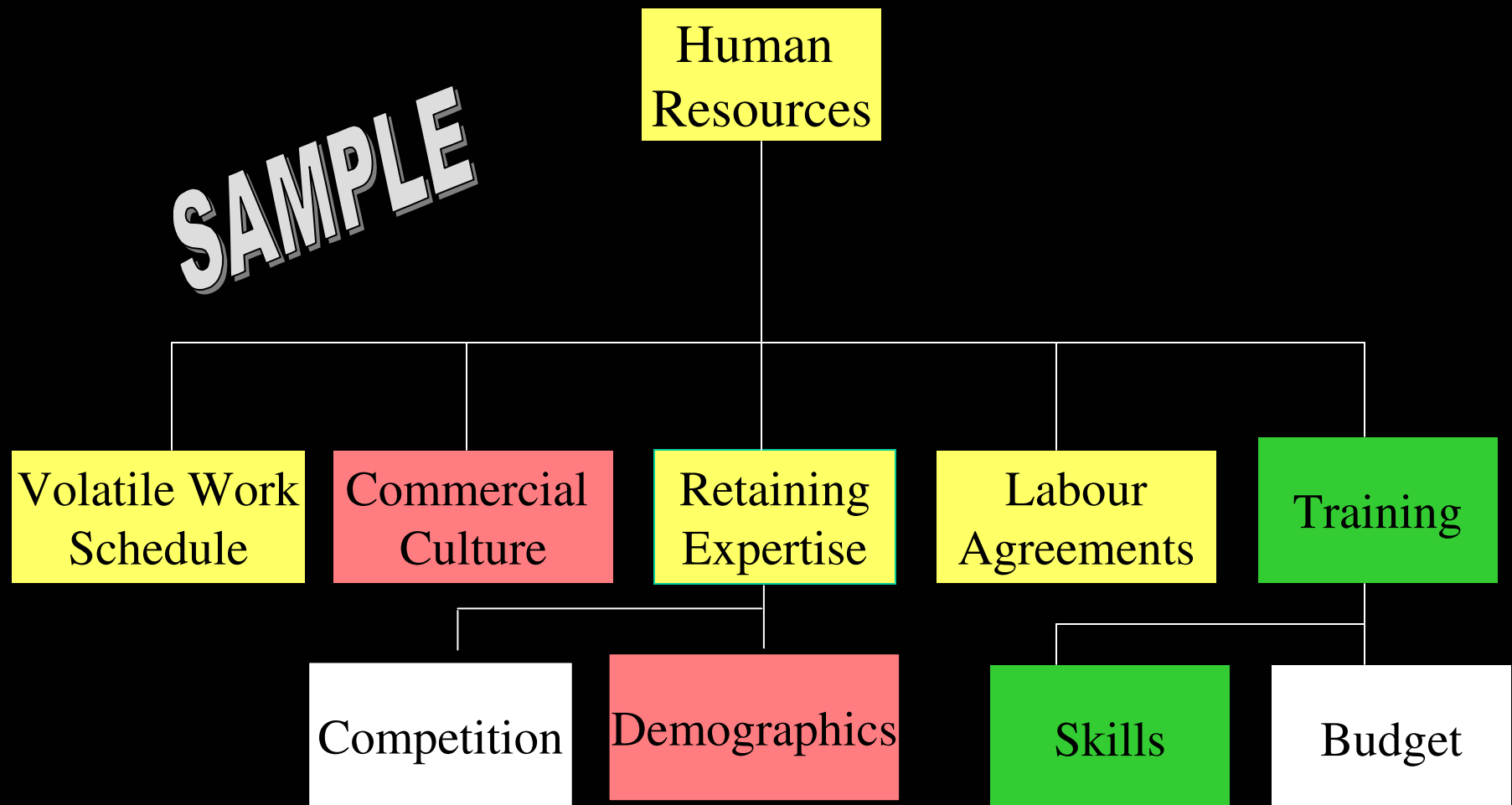
Minor:

- noticeable deterioration in results






Business Objectives		5 Worst Case	4 Severe	3 Major	2 Moderate	1 Minor
Earnings Volatility	Net Income shortfall after tax, in the six months leading up to the IPO	\$ 75 M shortfall	\$ 35 M shortfall	\$ 15 M shortfall	\$ 8 M shortfall	\$ 4 M shortfall
Brand (Reputation)	Negative Media attention, Public criticism (from any cause; could include reliability, legal compliance, environmental, safety)	International Media Attention, Complete loss of confidence/major public embarrassment; opinion leaders / customers nearly unanimous in public criticism	National Media Attention; Extensive loss of confidence/public embarrassment; most opinion leaders/customers publicly critical	Provincial Profile; Material erosion in confidence; several opinion leaders/customers publicly critical	Local Profile; Confidence in question; senior management involvement in responding to specific issues	Letter to Govt. or Senior Management; Localized criticism; correspondence or management meetings required to clarify
Align Workforce with Business Needs	Employee perceptions negatively affected	Sharp Deterioration in Employee Survey Results	Modest Decline in Employee Survey Results	No Improvement in Employee Survey Results	Much Less than planned improvement in Employee Survey Results	As-Planned Improvement in Employee Survey Results
Increase Workforce Safety	Employee Injuries	>50%- 100% above target; employee fatality	25%-50% above target; major permanent disability	15% -25% above target	Less than 15% above target	No Improvement

Structured Risk Interviews

SAMPLE



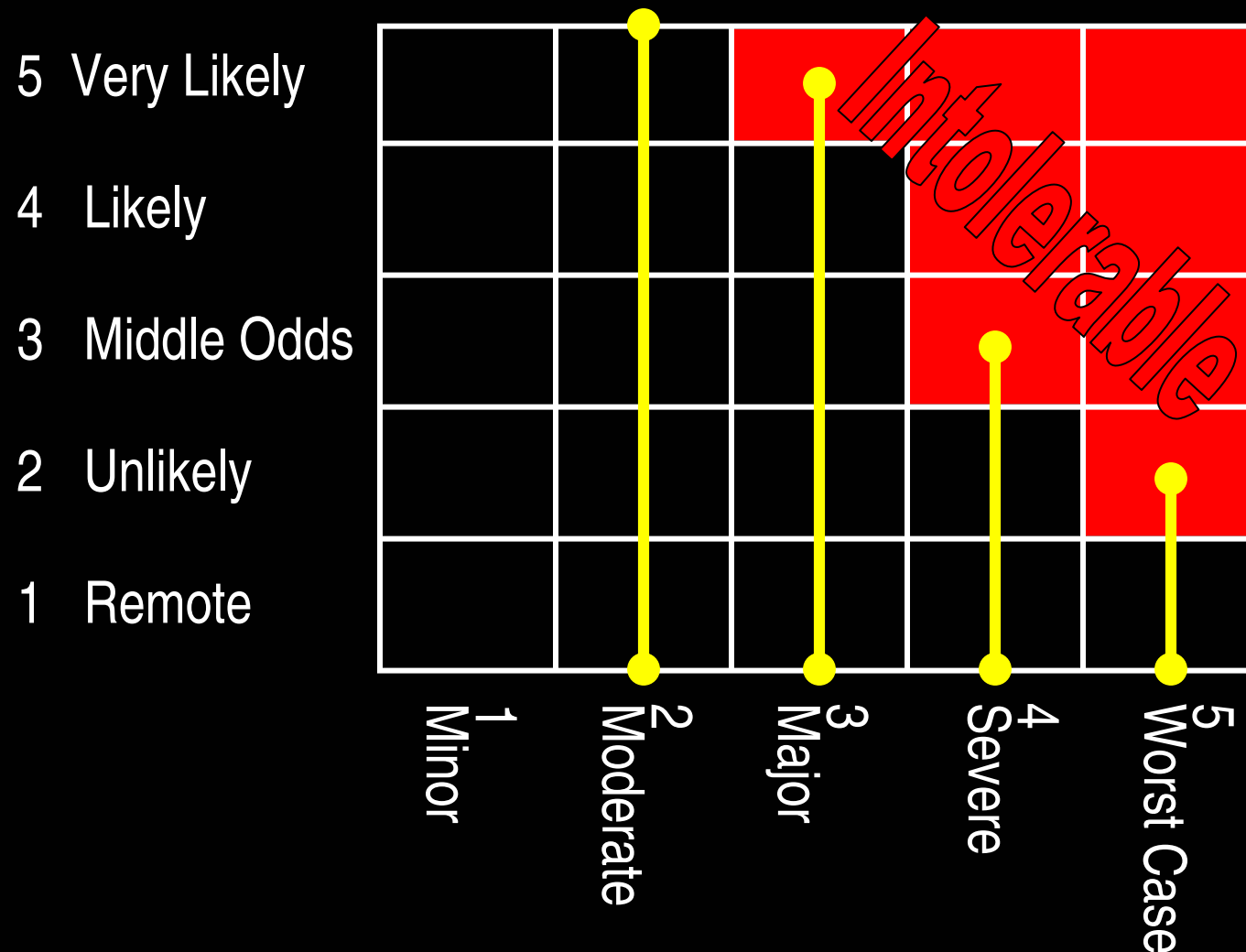
Corporate Risk Profile

<u>Risk Source</u>	<u>March 2001</u>	<u>Dec. 2001</u>	<u>Risk Trend</u>
Cost Reduction	Very High	Very High	
Regulatory Uncertainty	High	Very High	
Initial Public Offering	High	High	
Customer Relationships	High	Medium	
Human Resources	Medium	Medium	
Safety	High	Medium	

Note: Each risk category is explained with a half page analysis outlining the sources of the risk and the mitigants in place or planned.

SAMPLE

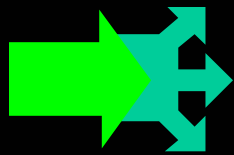
“True” tolerances: “Red Zone”



Basic Process



Carve work into “packages”



Define alternative investment levels



Estimate the incremental cost at each level



Evaluate residual risk at each level



Rank based on value for \$, cut-off

Ranking across work programs

Program	Level	Cost	Cuml. Cost	Risk if not done	Bank for Buck ⁽¹⁾	
Tree Trim	Highest Risk	\$2	\$2	4.6		Intolerable Risk
Lines	Highest Risk	\$6	\$8	4.5		
Poles	Highest Risk	\$1	\$9	3.9		
Tree Trim	Minimum Level	\$1	\$10	2.8	2.80	Resources = \$14
Lines	Level 1	\$3	\$13	3.0	1.00	
Tree Trim	Level 1	\$2	\$15	1.9	0.95	"BANG for BUCK"
Lines	Minimum Level	\$5	\$20	3.2	0.64	
Poles	Minimum Level	\$12	\$32	2.3	0.19	

(1) value for \$'s

Hydro One ERM Status - April 2002

<u>Framework</u>	<u>Initiated</u>	<u>Formulated</u>	<u>Implemented</u>	<u>Robust</u>
ERM Policy				
ERM Framework				
Executive Risk Committee				
Common Language				
Dedicated Corporate Risk Group				
Champions				
Integration with loss control				
Integration with Strategic Planning				
Integration with Business Planning				

Hydro One ERM Status - April 2002

<u>Tools & Techniques</u>	<u>Initiated</u>	<u>Formulated</u>	<u>Implemented</u>	<u>Robust</u>
Approved Risk Tolerances				
Workshops - Line				
Workshops - Leadership				
Voting Software				
Measurement – broad ranges				
Measurement – detailed metrics				
Risk Register	NAM only	NAM only		
Business Plan Templates				
Scenario analysis				
Sign-off by Line Management	NAM only	NAM only	NAM only	
ERM in VP's Personal Contracts				

Hydro One ERM Status - April 2002

<u>Deliverables</u>	<u>Initiated</u>	<u>Formulated</u>	<u>Implemented</u>	<u>Robust</u>
Corporate Risk Profile				
Reporting to Leadership Team				
Reporting to Audit & Finance Committee				
Reporting to Board				

Benefits of ERM

- Rating Agencies are now looking for it, so direct bottom line impact
- Improve communication between board and management
- Reassures stakeholders that the business is well managed
- Helps meet international risk management standard, such as AS/NZS 4360 & COSO (2004)
- Allocate resources based on risk priorities
- Avoid surprises and help ensure stability

Staying in Business

“We have been in business since 1906, and we have been pleasing and displeasing the public ever since. We have been cussed and discussed, boycotted and investigated, talked about, lied about, hung up, held up and robbed. The only reason we are staying in business is to see what happens next.”

Sir Adam Beck, 1922

As quoted in “*Adam Beck and The Ontario Hydro*”

by W. R. Plewman, published March 1947

Foundational Readings

Vernon Grose “*Managing Risk: Systematic Loss Prevention for Executives*” (1986)

H. Felix Kloman and Seawack Press Inc. publish monthly the “*Risk Management Reports*”

Standards Australia

“*Risk Management - AS/NZS 4360*” (1995, 1999 and 2004)

“*Organizational experiences in implementing risk management practices*” (Feb 2002)

The Conference Board of Canada:

“*A conceptual framework for integrated risk management*” (1997)

“*How integrated risk management can benefit your organization*” (1998)

“*Enterprise Risk Management - Inside and Out*” (2005)

James W. DeLoach

“*Enterprise Risk Management - Strategies for linking risk and opportunity*” (2000)

Canadian Institute of Chartered Accountants “*20 Questions Directors Should Ask About Risk*” (2003)

Tom Aabo, John Fraser & Betty Simkins “*The Rise and Evolution of the Chief Risk Officer: Enterprise Risk Management at Hydro One*” (2005) Morgan Stanley’s: Journal of Applied Corporate Finance

20 Questions

Directors Should Ask about
Risk

Hugh Lindsay, FCA, CIP

Questions?



The Canadian Institute
of Chartered Accountants