



TRI-STATE G&T

A Touchstone Energy[®]
Cooperative



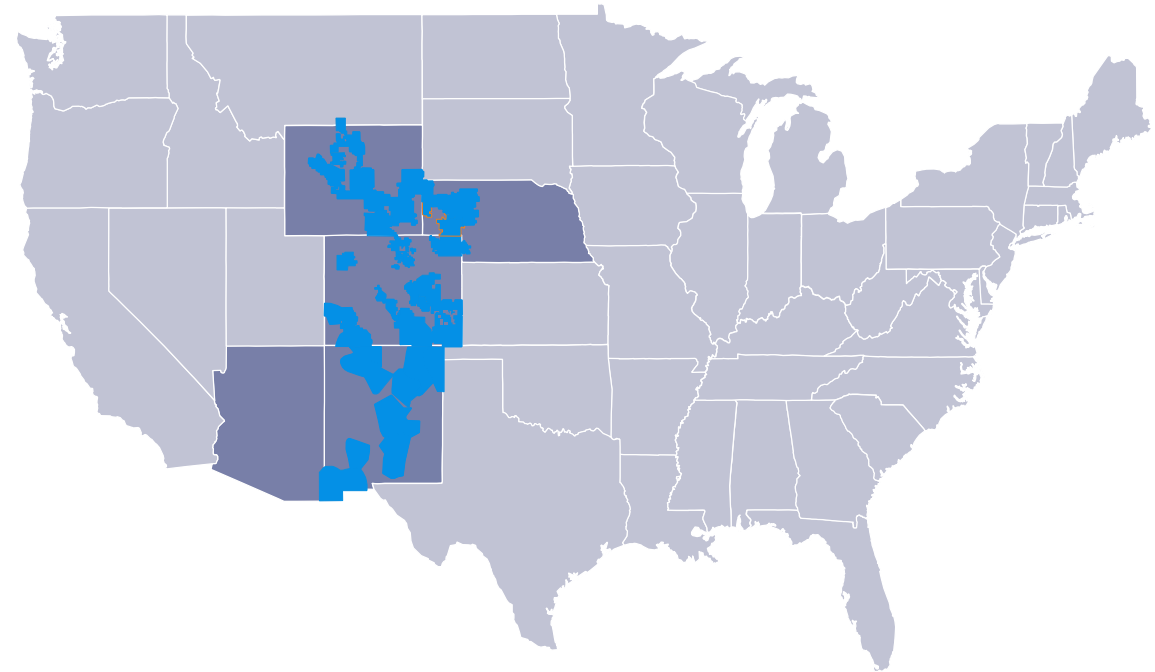
Enterprise Risk Management and Quantifying Enterprise Risk

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Tri-State G&T



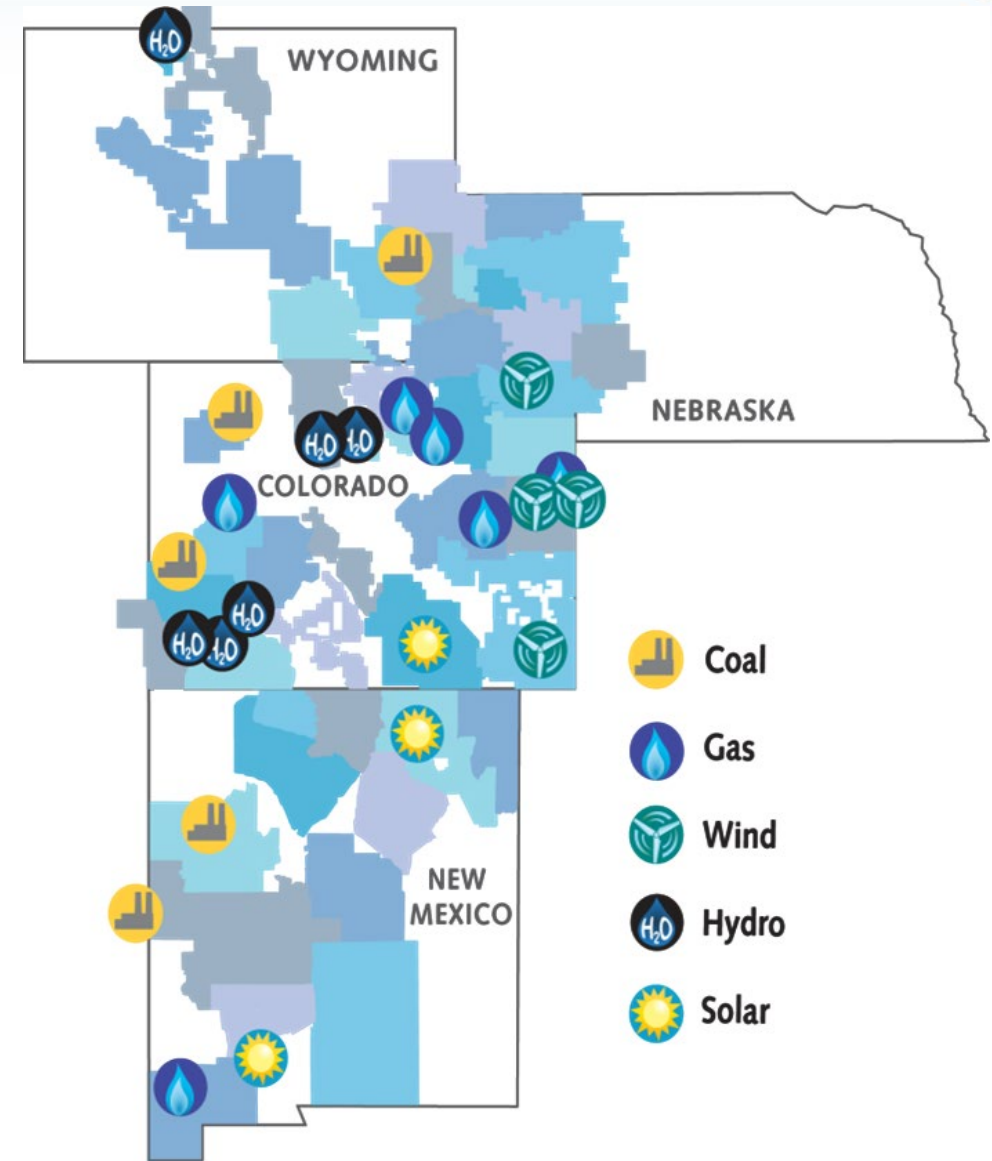
- 43 Member Distribution Cooperatives and Public Power Districts
- Members serve 1.5 million consumers across 200,000 square miles.
- 18.2 TWh sales
- \$1.3 billion operating revenue
- \$5.0 billion assets



Tri-State G&T



- 1,884 MW coal capacity
- 1,170 MW renewable
(Increasing to 1,294 MW)
 - Hydro
 - Wind
 - Solar
- 973 MW gas/oil supply
- 603 MW additional supply contracts
- 5,665 miles of transmission







- Energy Risk Management Program
Energy Management and Generation Fuel
Program operations and trade confirmations
- Credit Risk Management
Finance Department
- Cyber Security
Cyber Security Center
Internal and External threat monitoring



- Enterprise Risk Management
 - Managed by the Risk Assessment Committee (Executives)
 - Enterprise Risk Planning Committee (Sr. Managers)
 - Both committees analyze and discuss Tri-State Risks
 - All business areas work with analyst
 - Reviewing current program
 - Enterprise Risk Management reports up to CISO
 - CISO oversees all Enterprise Risks with an additional focus on Cyber Security

ERM's Role in the Energy Risk Management Program



- ERM manages the Energy Risk Management Program (ERMP) and provides independent oversight of compliance to it
- Finance Department oversees credit analysis and recommendations
- Internal Audit reviews transactions on a sample basis

Main aspects of ERMP:

- To proactively manage Tri-State's energy risk exposures and associated commodity transaction activities in accordance with Board and Corporate policies
- To provide Tri-State Member Systems with reliable and affordable electricity
- To preserve and minimize the volatility of budgeted margins received from energy and transportation transactions.
- To ensure adequate controls, separation of duties, and independent verification of energy marketing operations and performance metrics.
- To provide independent administration of various trading platforms associated with transacting in wholesale commodity Markets (e.g., ICE, WREGIS, MRETS, WebTrader)

Summary of Energy RMP Provisions



- Front Office (Energy Markets and Energy Resources):
 - Oversight of physical energy market operations from Real-Time through as much as 18 months into the future (Energy Portfolios); and through the long-range market; which includes power, natural gas, hydro and other renewable energy. Excludes procurement of coal and water.
- Mid-Office Resource Planning/Analytics, ERM, Credit Risk):
 - Independent review and confirmation of physical and financial transactions
 - Oversight of critical energy risk metrics:
 - Credit exposure
 - Mark-to-Market
 - Trader Authority Limits in WebTrader
 - Forward Market Curves
 - ICE User Permissions
 - WREGIS/MRETS User Permissions and Invoice Verification
 - Metric and Violation Reporting to Management

Summary of Energy RMP Provisions (cont.)



- Back Office (Netting & Settlements, Accounting):
 - End- of Month Checkout
 - Invoicing and Payments
 - Accounting in accordance with prevailing standards
 - Physical and financial reconciliation and reporting
- Authorized Commodities:
 - Electric Power and Transmission
 - Natural Gas and Associated Storage and Transportation
 - Emission Allowances
 - Renewable Energy Credits
 - Ancillary Services Already Owned by Merchant Function
 - Coal
 - Fuel Oil

Summary of ERMP Provisions (cont.)



- Prohibited Activity
 - Speculation-Buying or Selling of Energy Commodities and holding position open for longer than one business day in order to profit from anticipated price movement.
 - Wash Trades – simultaneous purchase and sale of the same commodity at the same price, volume delivery point, and term.



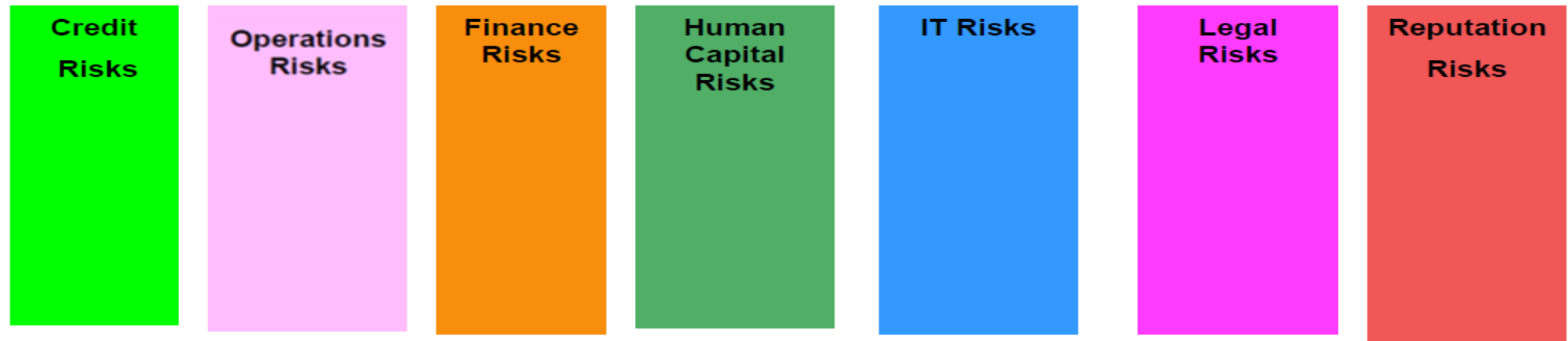
Put me in Coach!

What is Enterprise Risk Management?

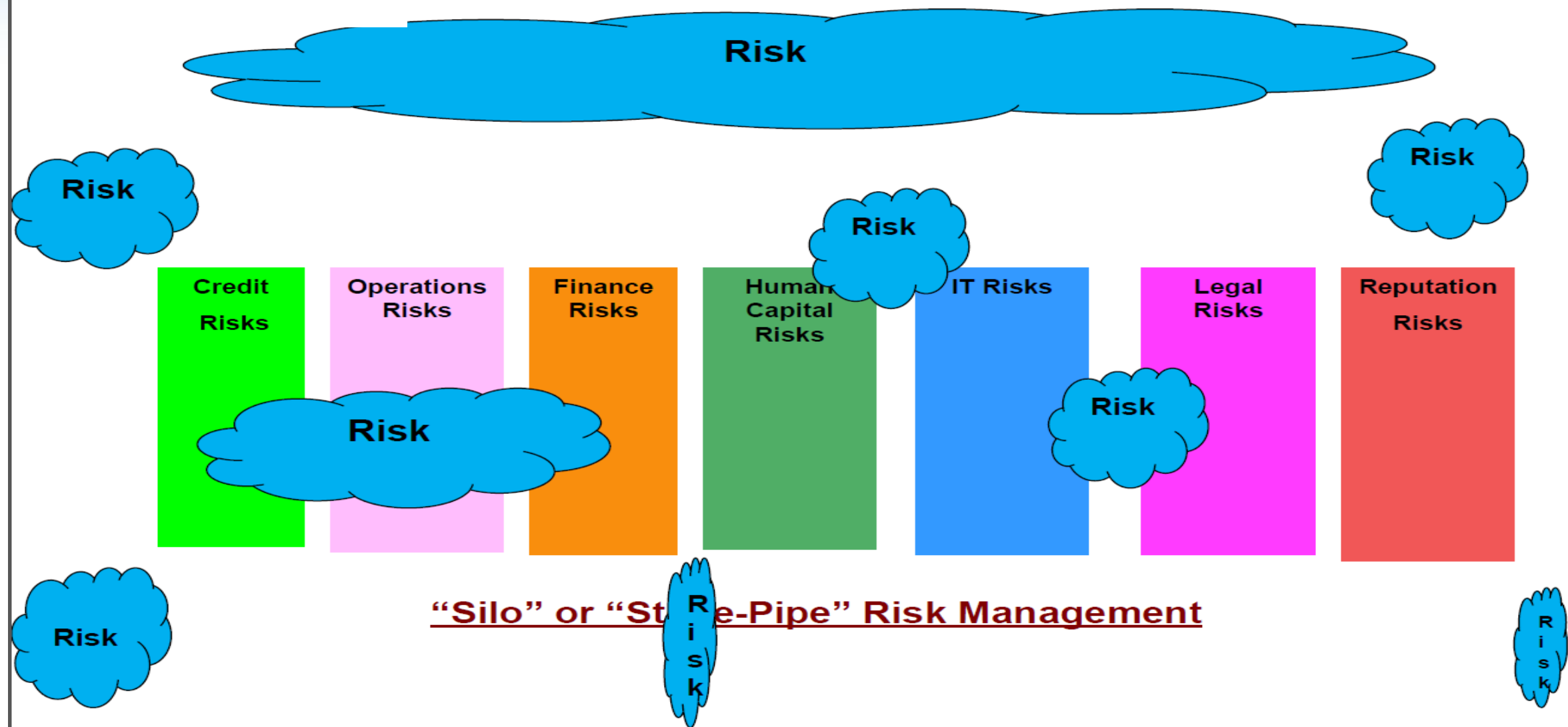
- ERM is a rigorous and integrated process approach to assessing and responding to key business risks that affect the achievement of an organization's objectives.



Traditional Risk Mgt Approach



“Silo” or “Stove-Pipe” Risk Management



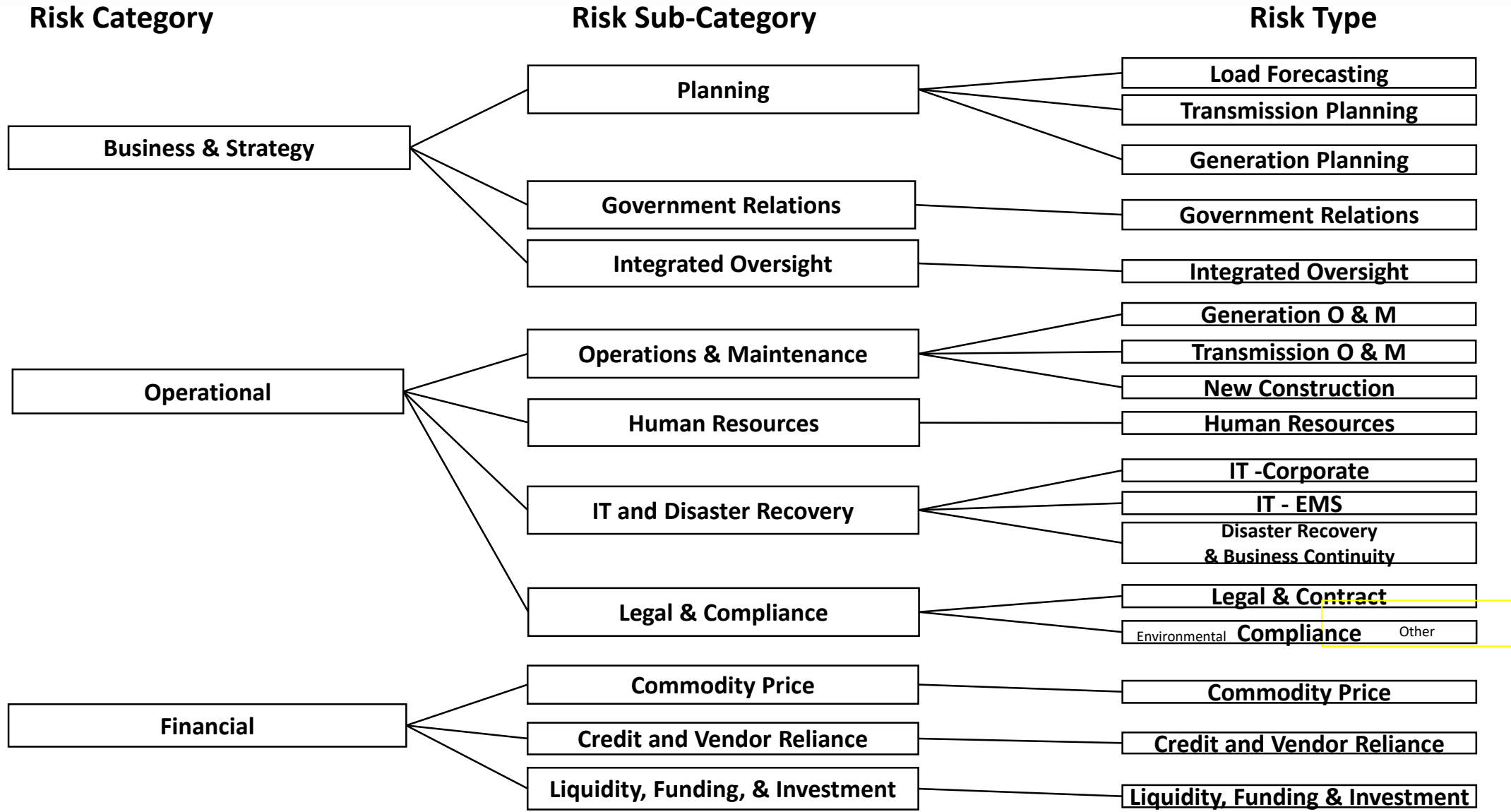
ERM Brings Risks Together



Enterprise Risk Management



Risk Hierarchy



1. Impact

		Business Objective Impact Scale				
Score	Rating			Description		
		Financial	Strategic	Operational	Safety	Reputational
5	Catastrophic	Over \$xx Impact to Net Margin	Fundamental threat to corporate survival	<ul style="list-style-type: none"> • Increase in EFOR¹ of over xx% • Increase in TCODI² of over xx minutes • Budget deviation of > xx% 	Catastrophic safety issues	Catastrophic media issues
4	Major	\$xx - \$xx Impact to Net Margin	Explicit failure to achievement of one or more business objectives	<ul style="list-style-type: none"> • Increase in EFOR¹ of xx - xx% • Increase in TCODI² of xx - xx minutes • Budget deviation of xx - xx% 	Major safety issues	Major media issues
3	Moderate	\$xx - \$xx Impact to Net Margin	Significant disruption to achievement of one or more business objectives	<ul style="list-style-type: none"> • Increase in EFOR¹ of xx - xx% • Increase in TCODI² of xx - xx minutes • Budget deviation of xx - xx% 	Moderate safety issues	Moderate media issues
2	Minor	\$xx - \$xx Impact to Net Margin	Limited but measurable disruption to achievement of business objectives	<ul style="list-style-type: none"> • Increase in EFOR¹ of xx - xx% • Increase in TCODI² of xx - xx minutes • Budget deviation of xx - xx% 	Minor safety issues	Minor media issues
1	Negligible	Less than \$xx Impact to Net Margin	Relatively insignificant disruption to achievement of business objectives	<ul style="list-style-type: none"> • Increase in EFOR¹ of xx - xx% • Increase in TCODI² of up to xx minutes • Budget deviation of <xx% 	Negligible safety issues	Negligible media issues
¹ EFOR = Effective Forced Outage Rate						
² TCODI = Rolling Average Transmission Circuit Outage Duration Index						

Enterprise Risk Metrics



2. Likelihood

Likelihood Scale		
Score	Rating	Description
1	Remote	> 0% to 5% probability that event will occur in the next 3 years
2	Unlikely	5% to 25% probability that event will occur in the next 3 years
3	Reasonable	25% to 50% probability that event will occur in the next 3 years
4	Probable	50% to 75% probability that event will occur in the next 3 years
5	Virtually Certain	75% to 100% probability that event will occur in the next 3 years

Enterprise Risk Metrics



3. Risk Classification

IMPACT	CAD Systems Risk Heat Map					
	Catastrophic	<u>Class 4</u>	<u>Class 4</u>	<u>Class 4</u>	<u>Class 4</u>	<u>Class 4</u>
	Major	<u>Class 3</u>	<u>Class 3</u>	<u>Class 3</u>	<u>Class 4</u>	<u>Class 4</u>
	Moderate	<u>Class 2</u>	<u>Class 2</u>	<u>Class 3</u>	<u>Class 3</u>	<u>Class 4</u>
	Minor	<u>Class 1</u>	<u>Class 2</u>	<u>Class 2</u>	<u>Class 3</u>	<u>Class 4</u>
	Negligible	<u>Class 1</u>	<u>Class 1</u>	<u>Class 2</u>	<u>Class 2</u>	<u>Class 3</u>
		Remote	Unlikely	Reasonable	Probable	Certain
	LIKELIHOOD					

Enterprise Risk Metrics



4. Risk Response Scale

<u>Risk Response Scale</u>	
<u>Risk Class</u>	Response Required
Class 1	No Action Required; "As Needed" Monitoring Recommended
Class 2	"As Needed" Action Required; Annual Review Recommended
Class 3	Mitigative Action Plan Required; Semi-annual Review Recommended as a Minimum
Class 4	Robust Monitoring and Mitigative Action Plan Required; Quarterly Review Recommended as Minimum



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QUESTIONS?

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