



Pipeline Integrity and Safety – Leading Indicators

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TransCanada Corporation (TSX/NYSE: TRP)



One of North America's Largest Natural Gas Pipeline Networks

- Operating 68,000 km (42,100 mi) of pipeline
- Average volume of 14 Bcf/d or 20% of continental demand

North America's 3rd Largest Natural Gas Storage Operator

- 368 Bcf of capacity

Canada's Largest Private Sector Power Generator

- 19 power plants, 10,900 MW
- Diversified portfolio, including wind, hydro, nuclear, coal, solar and natural gas

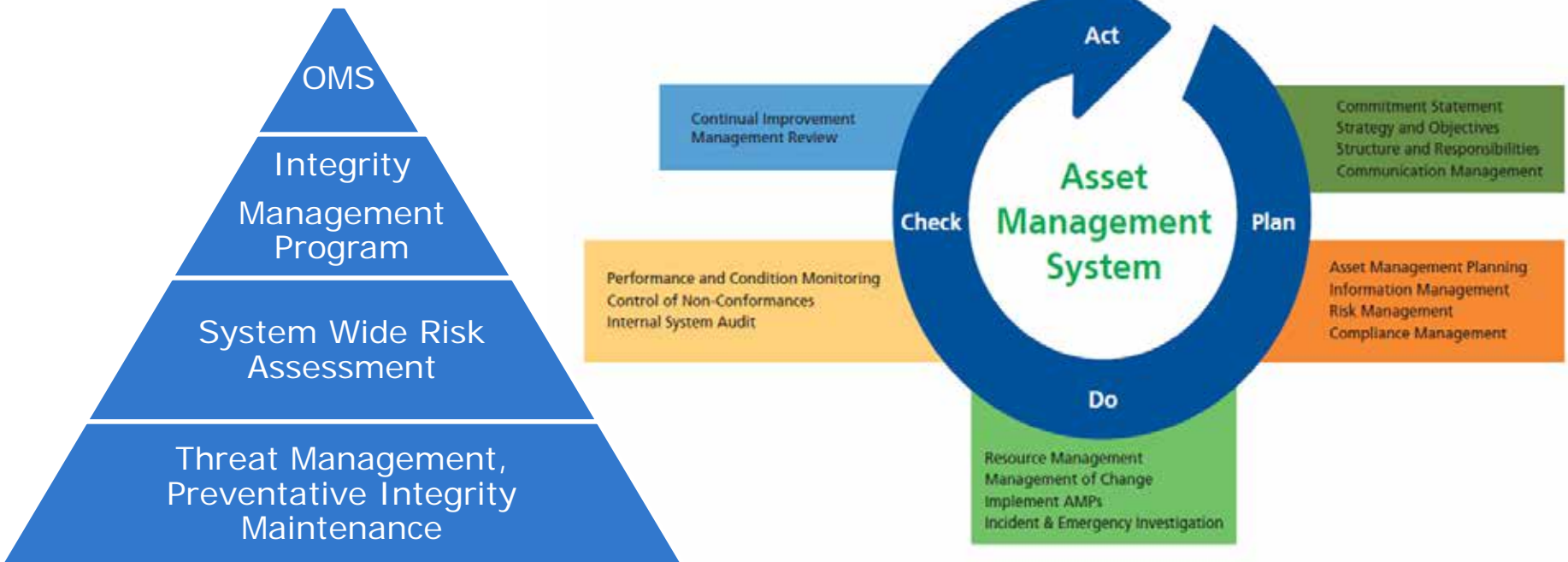
Premier North American Oil Pipeline System

- Keystone Pipeline System (includes Gulf Coast Pipeline): 4,247-km (2,639-mi), 591,000 bbl/d capacity
- Safely delivered more than one billion barrels of Canadian oil to U.S. markets since 2010

Pipeline Integrity Management Program



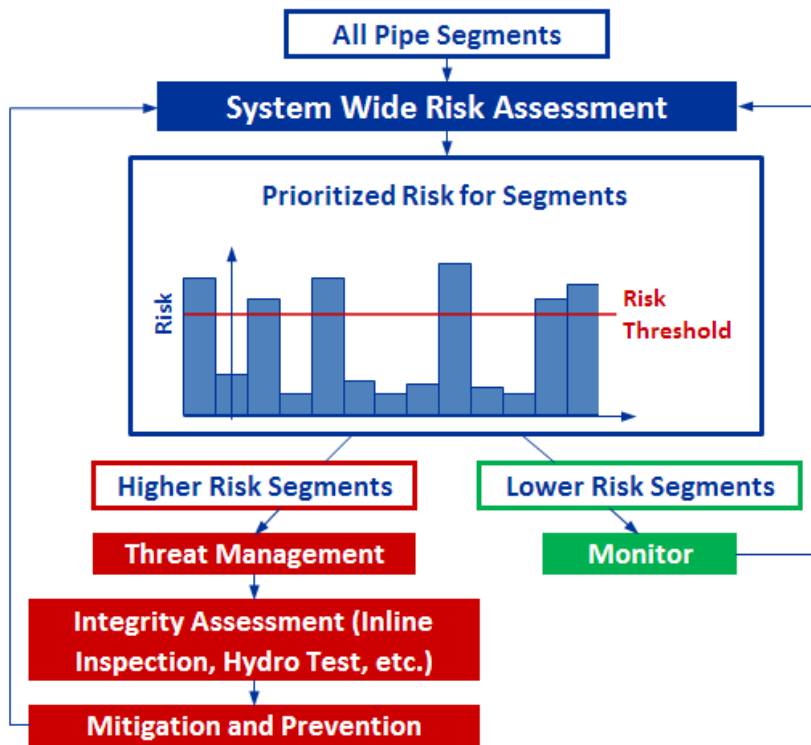
- An example of a proactive program governed by our Operational Management System
- Full life cycle management of pipeline integrity and safety



System Wide Risk Assessment (SWRA)



SWRA, a quantitative risk assessment process

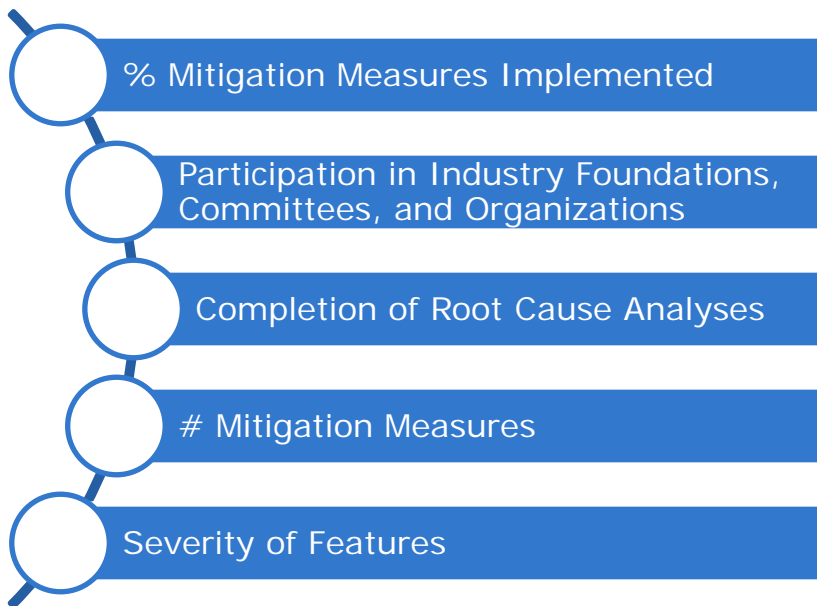


- Significant Change in Risk
- Risks Exceeding Risk Threshold

Threat Management



- Time Dependent Threat**
 - External Corrosion
 - Internal Corrosion
 - Stress Corrosion Cracking
- Stable Threats**
 - Manufacturing Defects
 - Construction Defects
 - Equipment Failures
- Time Independent Threats**
 - 3rd Party Damage
 - Weather and Outside Forces
 - Incorrect Operations



2015 Statistics

- 436 Pipe integrity personnel to implement the program (not including 3rd party field contractors)
- 725 Excavations
- 21 Geotechnical remediations
- 229 Facility inspections and remediations
- 383 Cathodic Protection installations, 165 repairs, and 980 inspections
- 7 Class pipe replacements
- 109 Water crossings monitored
- 9 Hydro tests



In-Line Inspection (ILI)



- ILI uses pipeline inspection gauges (PIG) for condition monitoring and maintenance
- Enables identification, analysis, susceptibility assessment, risk management, and remediation

- # Features Identified
- Accuracy of ILI Calls
- # of ILIs and Distance Run

2015 Statistics

172 In-line inspections performed in 2015

15,334 km of ILI run in 2015

5 Main Types of ILI (MFL, EMAT, Caliper, Smartball, Cleaning)

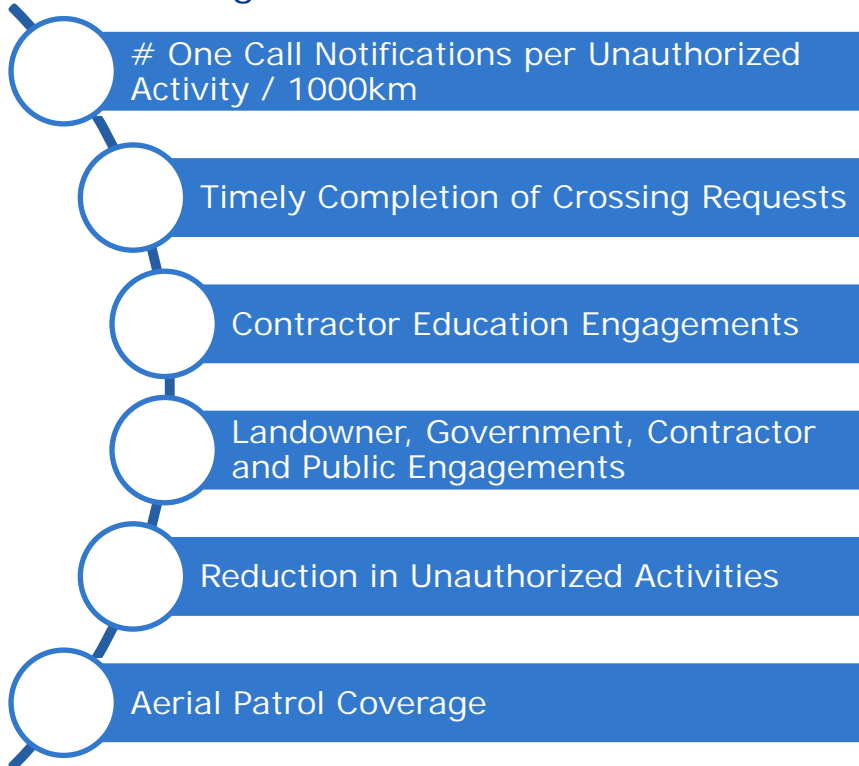


Damage Prevention



Damage prevention - the proactive strategy to minimizing the probability of an incident caused by third parties (government, public, contractors, land owners, etc.).

- Public Awareness
- Mechanical Damage
- Crossings



2015 Statistics

3003 Aerial patrol and 485,065 km flown

118,318 One call requests processed

818,755 Baseline mailings (public outreach)

2295 Crossing agreements processed

163 Unauthorized activities with 63 investigated



Damage Prevention





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