

Direct Assessment for Casings – Spectra Energy PHMSA Workshop July 15, 2008

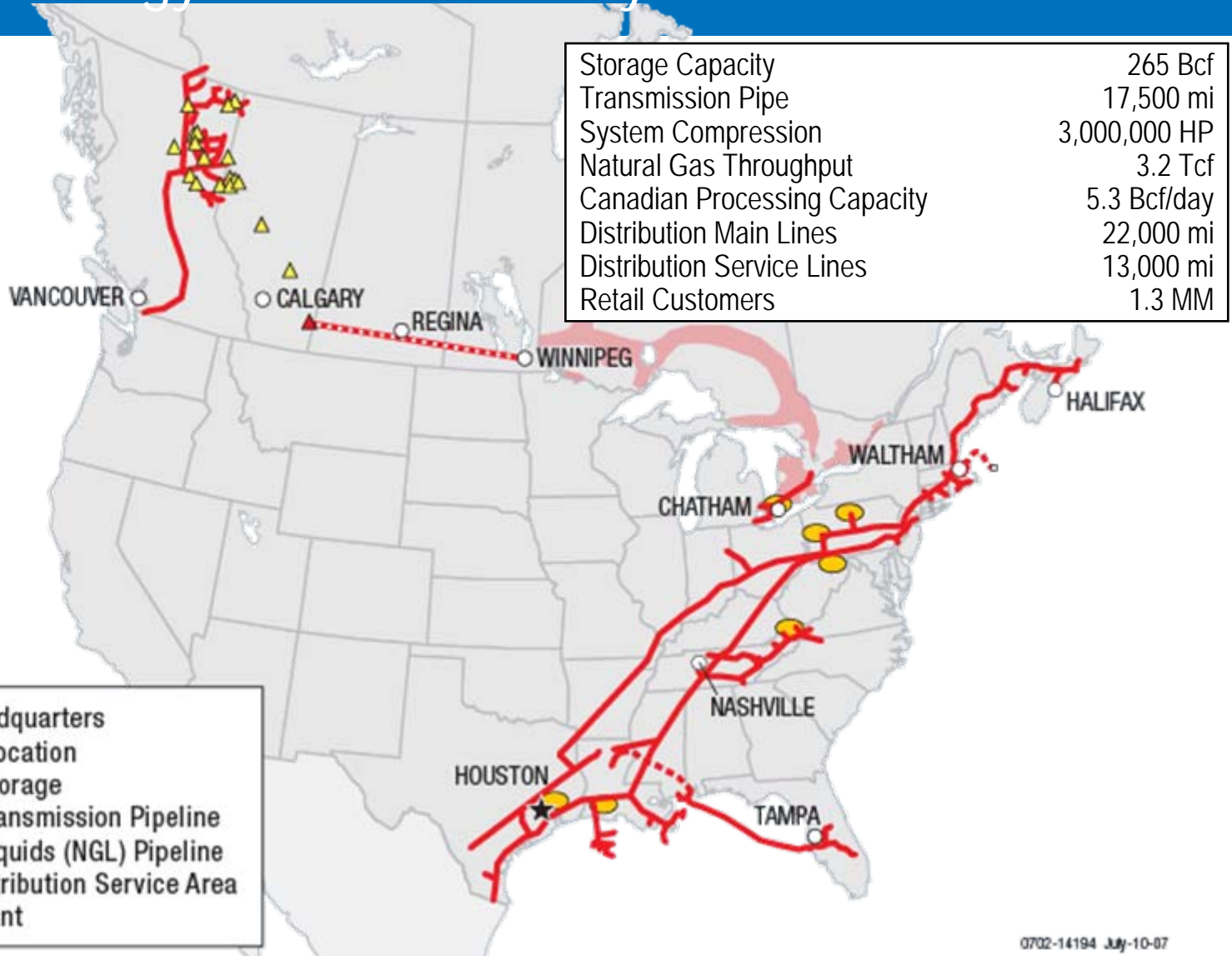
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Outline

- Who are we?
- Why did we decide to use DA for casings?
- How did the process work?
- What were the results of our assessment?

Spectra Energy Transmission System



Spectra Integrity Program

- HCA
 - Number - 1707
 - Mileage - 1164
- Inspection Type (Based on number of HCAs)
 - ILI – 90%
 - DA – 9.5%
 - Hydro – 0.5%
 - Other – 0.0%

Casing Summary

- ILI primary assessment method
- Alternative needed for "other technology" (GWUT)
- Number of Casings Assessed using DA
 - To-Date - 7 (600 feet, 4" to 8")
 - 2008 - 0
 - 2009 - 2
- No corrosion anomalies found to-date

Corrosion Scenarios in Casings

- Metallic contact between casing and the pipeline
- Electrolytic contact between the casing and the pipeline
- Atmospheric corrosion on pipeline in a casing

Direct Assessment – Steps 1 and 2

- Pre-Assessment
- Indirect Examination
 - PCM
 - PCM with A Frame
 - P/S and C/S
 - Guided Wave (follow 18 points)

Classification of Indirect Inspection Testing

- Indication of Electrolytic or Metallic Short – Immediate
- No indication - Monitored

Direct Assessment – Steps 3 and 4

- Direct Examination
 - Dig all casings
 - Repair & Inspect End Seals
- Post Assessment

GWUT Response Criteria

Required Pipeline Response			
GWUT Criterion	Operating Pressure Less than 30% SMYS	Operating Pressure 30% to 50% SMYS	Operating Pressure Over 50% SMYS
Over 5% CSA and for identified examination	Interval < 12 months	Interval < 6 months	Interval < 6 months
	Leak survey once/month	Direct Examination	Direct Examination
	Direct Examination	MOP < psi @ discovery	Reduce to 80% MOP @ Discovery
		Leak survey once/month	

Casing Excavation



Accessibility





GWUT Anomaly Inspection



GWUT Anomaly – Excess Coating



Casing Clean-up



Casing Under Streets



Casing Accessibility



Summary of Findings

- 7 Casings evaluated
- All pipe operates at less than 50% SMYS, some < 30%
- Casings were 2 pipe sizes greater than the pipe diameter
- Installation dates 1953 to 1964

Summary of Findings (cont.)

- Indication found within 1 casings (excess coating)
- All were immediate indications per Spectra's DA procedures
- 4 electrolytic / 2 metallic shorts
- No low P/S
- End seals replaced