Gas Transmission Integrity Management

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## Gas transmission incidents within HCAs, by threat and by year

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Breakdown of all onshore transmission incidents by cause, 2002-2009

- **External Corrosion**: 12%
- **Internal Corrosion**: 4%
- **Environmental Cracking**: 2%
- **Construction**: 8%
- **Materials**: 9%
- **Equipment**: 11%
- **Incorrect Operations**: 3%
- **Weather and Outside Force**: 17%
- **Excavation**: 21%
- **Other and Unknown**: 13%
Breakdown of all onshore transmission incidents by cause, 2010-2018

- **Equipment**: 34%
- **Incorrect Operations**: 6%
- **Weather and Outside Force**: 15%
- **Excavation**: 15%
- **Materials**: 3%
- **Construction**: 8%
- **Environmental Cracking**: 2%
- **Internal Corrosion**: 4%
- **Other and Unknown**: 6%
- **External Corrosion**: 7%
Breakdown of all onshore gas transmission leaks by cause

- Const/Material Defect
- Corrosion
- Equipment/Operations/Other
- Outside Force Damage
Next Steps

• Two new gas transmission rules will likely produce further incident reductions, particularly in corrosion, manufacturing, and construction-related incidents

• Continue to promote use of One Call and focus on locations and equipment commonly involved in excavation damage incidents

• Stay focused on mitigating earth movement, and also work to improve physical protection of above-ground facilities and mitigate effects of cold temperatures

• Consider how relief device events are classified to improve analysis

• Leverage pipeline safety management systems to address complex threats
Effects of 2010 reporting change