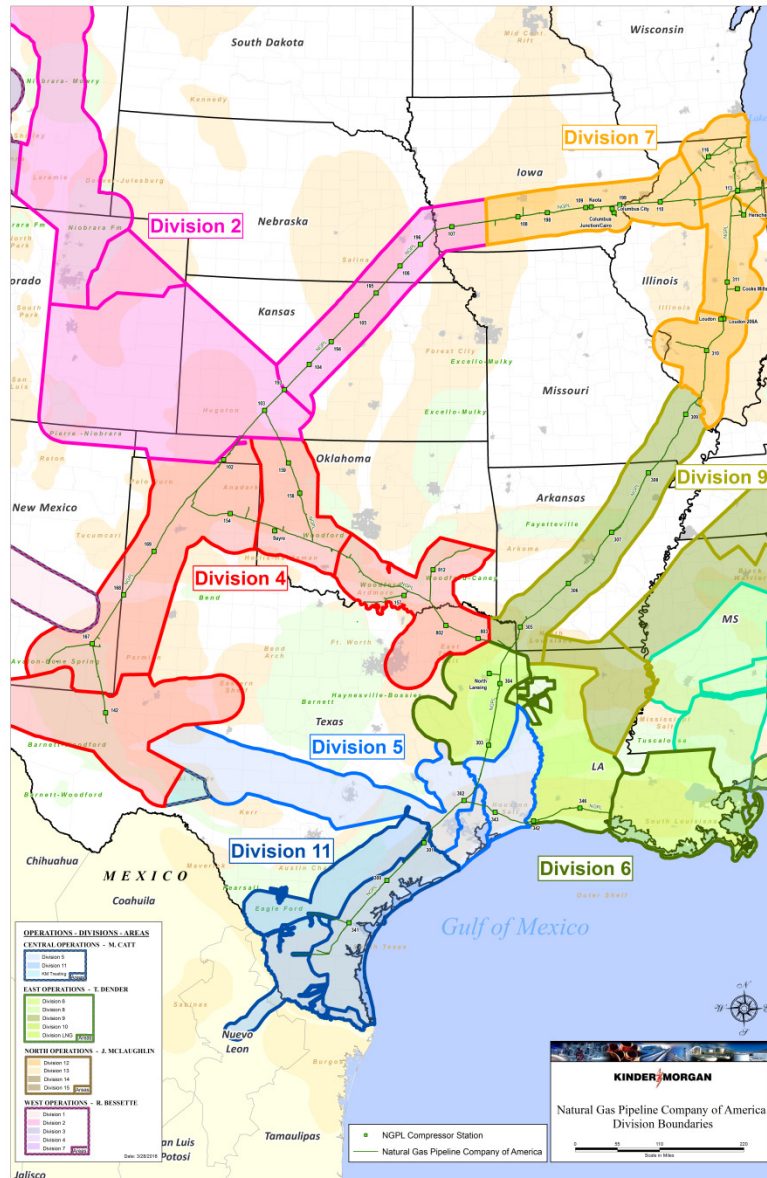


Natural Gas Pipeline Company of
America LLC (NGPL)
Integrity Spending for 2018 and 2019

Shipper Meeting
May 13, 2019

NGPL Divisions



Proprietary Information

Category Description

- In Line Inspection (ILI)
 - Smart tools used to:
 - identify general internal and external corrosion using ‘standard’ MFL
 - Identify longitudinal defects including long-seam corrosion using C-MFL (also known as an AFD tool)
- EMAT Runs
 - Smart tool used to identify Stress Corrosion Cracking (SCC)
- Pressure and Spike Tests
 - Hydrostatic pressure tests performed in pipeline sections that are not piggable or to complement EMAT in pipeline sections within high consequence areas (HCAs)
- Direct Assessment Testing for HCAs (DE, ECDA, SCCDA)
 - Visual pipe examinations performed in pipeline sections that are relatively short and/or not conducive to ILI or hydrostatic pressure tests
- KMI Assessment Digs
 - Excavations performed to prove-up the existence of SCC using the “KMI process”

Category Description

- Remediation
 - Pipeline repairs / remediation of anomalies identified by a smart tool run
- Wellhead Integrity Program
 - Activities related to down-hole logging (ILI) of storage wells and replacement of well head components
- Other (Geohazards, Misc)
 - Reviews, assessments, and mitigation of pipeline hazards created by geological events such as land slides, floods, erosion, etc.
- Make Piggable
 - Installing or replacing facilities to allow the use of smart tools in a previously unpiggable pipeline section
- Drip Replacement and Removal
 - Removal or replacement of pipeline drips that are no longer necessary and may pose an integrity risk

Acronyms

- DE, ECDA, SCCDA – various types of direct examination and assessment
- EMAT – electro-magnetic acoustic transducer
- MFL – magnetic flux leakage
- C-MFL – circumferential magnetic flux leakage
- KMI Process – analytical method and system for predicting the location of stress corrosion cracking in a steel gas pipeline system. (Patented in 2007)

Pipeline Integrity Cost Summary by Division

| Location | Cost Category | Description | 2018 (Actual) | 2019 (Planned) |
|------------|---------------|---|---------------|----------------|
| Division 2 | O&M | ILI | \$ 734,299 | \$ 2,257,821 |
| | O&M | EMAT Runs (including chemical cleaning) | \$ 917,406 | \$ 1,242,309 |
| | O&M | Remediation | \$ 2,461,395 | \$ 4,941,095 |
| | Capital | Remediation - Pipeline Replacement over 100ft | \$ 71,904 | \$ - |
| | Capital | Make Piggable | \$ 5,360,252 | |
| | Capital | Drip Replacement and Removal | \$ 191,882 | \$ 361,889 |
| | | Total Division 2 | \$ 9,737,138 | \$ 8,803,114 |
| Division 4 | O&M | ILI | \$ 994,289 | \$ 734,474 |
| | O&M | EMAT Runs (including chemical cleaning) | \$ 1,155,130 | \$ 1,469,441 |
| | O&M | KMI Assessment Digs | \$ 46,554 | \$ - |
| | O&M | Remediation | \$ 2,991,176 | \$ 6,082,606 |
| | O&M | Wellhead Integrity Program | \$ 130,127 | \$ 113,950 |
| | Capital | Make Piggable | \$ 3,753,039 | \$ 799,535 |
| | Capital | Drip Replacement and Removal | \$ 735,897 | \$ - |
| | | Total Division 4 | \$ 9,806,211 | \$ 9,200,006 |
| Division 5 | O&M | ILI | \$ 432,231 | \$ 840,288 |
| | O&M | EMAT Runs (including chemical cleaning) | \$ - | \$ 2,777,952 |
| | O&M | Remediation | \$ 1,229,001 | \$ 1,976,445 |
| | O&M | Wellhead Integrity Program | \$ - | \$ - |
| | Capital | Make Piggable | \$ - | |
| | | Total Division 5 | \$ 1,661,232 | \$ 5,594,685 |

Pipeline Integrity Cost Summary by Division

| Location | Cost Category | Description | 2018 (Actual) | 2019 (Planned) |
|------------|---------------|---|---------------|----------------|
| Division 6 | O&M | ILI | \$ 464,743 | \$ 1,965,096 |
| | O&M | EMAT Runs (including chemical cleaning) | \$ 965,656 | |
| | O&M | ECDA, SCCDA, and DE for HCAs or TRRC | \$ - | \$ 362,566 |
| | O&M | KMI Assessment Digs | \$ 120,012 | \$ - |
| | O&M | Remediation | \$ 466,995 | \$ 1,150,763 |
| | O&M | Wellhead Integrity Program | \$ 265,042 | \$ 331,950 |
| | Capital | Make Piggable | \$ 14,999,408 | \$ 1,447,833 |
| | Capital | Drip Replacement and Removal | \$ 533,698 | \$ - |
| | Capital | Remediation - Pipeline Replacement over 100ft | \$ - | \$ 559,637 |
| | | Total Division 6 | \$ 17,815,554 | \$ 5,817,845 |
| Division 7 | O&M | ILI | \$ 6,314,199 | \$ 6,241,860 |
| | O&M | EMAT Runs (including chemical cleaning) | \$ 3,001,684 | \$ 3,826,533 |
| | O&M | Pressure & Spike Test | \$ 3,409,592 | \$ 2,489,611 |
| | O&M | ECDA, SCCDA, and DE for HCAs or TRRC | \$ 912,498 | \$ 1,430,813 |
| | O&M | KMI Assessment Digs | \$ - | \$ - |
| | O&M | Remediation | \$ 2,597,292 | \$ 5,098,008 |
| | O&M | Wellhead Integrity Program | \$ 1,909,653 | \$ 3,116,500 |
| | Capital | Make Piggable | \$ 8,687,248 | \$ 33,883,127 |
| | Capital | Drip Replacement and Removal | \$ 22,464 | \$ 524,351 |
| | | Total Division 7 | \$ 26,854,630 | \$ 56,610,803 |

Pipeline Integrity Cost Summary by Division

| Location | Cost Category | Description | 2018 (Actual) | 2019 (Planned) |
|-------------|---------------|---|----------------------|----------------------|
| Division 9 | O&M | ILI | \$ 1,719,623 | \$ 865,778 |
| | O&M | EMAT Runs (including chemical cleaning) | \$ 3,038,165 | \$ 1,476,061 |
| | O&M | Pressure & Spike Test | | |
| | O&M | ECDA, SCCDA, and DE for HCAs or TRRC | \$ 50,202 | \$ 184,432 |
| | O&M | KMI Assessment Digs | \$ - | \$ - |
| | O&M | Remediation | \$ 2,862,189 | \$ 2,359,035 |
| | | Total Division 9 | \$ 7,670,179 | \$ 4,885,306 |
| Division 11 | O&M | ILI | \$ 324,615 | \$ 594,986 |
| | O&M | EMAT Runs (including chemical cleaning) | \$ - | \$ 1,251,268 |
| | O&M | Remediation | \$ 1,005,171 | \$ 1,232,961 |
| | O&M | KMI Assessment Digs | \$ 65,680 | \$ - |
| | Capital | Make Piggable | \$ 4,215,315 | \$ - |
| | | Total Division 11 | \$ 5,610,781 | \$ 3,079,215 |
| Other | O&M | Other (Geohazards, Wrinkle Bend, Misc) | \$ 300,438 | \$ 605,000 |
| | | Grand Total | \$ 79,456,163 | \$ 94,595,974 |

2018 Actual Expenditures & Timing

| | Capital | O & M | Total |
|-------------------------|---------------------|---------------------|---------------------|
| 1 st Quarter | \$526,463 | \$3,473,680 | \$4,000,143 |
| 2 nd Quarter | \$5,207,096 | \$15,938,503 | \$21,145,599 |
| 3 rd Quarter | \$24,916,006 | \$14,420,176 | \$39,336,182 |
| 4 th Quarter | \$7,921,542 | \$7,052,697 | \$14,974,239 |
| Total | \$38,571,107 | \$40,885,056 | \$79,456,163 |

2019 Planned Expenditures & Timing

| | Capital | O & M | Total |
|-------------------------------|---------------------|---------------------|---------------------|
| 1st Quarter | \$815,546 | \$2,580,604 | \$3,396,150 |
| 2nd Quarter | \$7,819,480 | \$20,265,522 | \$28,085,002 |
| 3rd Quarter | \$20,732,193 | \$17,531,519 | \$38,263,712 |
| 4th Quarter | \$8,209,153 | \$16,641,957 | \$24,851,110 |
| Total | \$37,576,372 | \$57,019,602 | \$94,595,974 |

Outage Postings

- Natural updates a list of upcoming projects on its interactive website on a weekly basis.
- For a current list of projects, please follow this link:
 - https://pipeline2.kindermorgan.com/Documents/NGPL/NGPL_OutageImpactReport.pdf

Natural Gas Pipeline Company of America LLC
Outage Impact Report

Last Updated: April 24, 2019

| Estimated Start Date | Estimated Finish Date | Day(s) | IMPACTED SEG/LOC | Compressor Station(s) | Unit / Line | Description | Scheduling Location | Pool Location | Transport Impact |
|----------------------|-----------------------|--------|------------------|-----------------------|-------------|---|---------------------|-----------------------------------|---|
| 04/01/19 | 04/27/19 | 27 | 11 | 105 | AM #2 M/L | Remediation Work - See Operational Alert Posting on Natural's EBB | TBD if Needed | Midcontinent: South of Constraint | If remediation is required, all transport services are at risk of not being fully scheduled for gas flowing northbound through CS 105. |
| 04/05/19 | 05/15/19 | 41 | 2 | 156/801 | OE#1 | Remediation Work - See latest Force Majeure Posting on Natural's EBB | MLV 801-2 | Midcontinent: West of Constraint | No eastbound flow through constraint, Phase 1 Locations now available for westbound flow only, Phase 2 Locations not available - see posting. |
| 04/18/19 | 05/31/19 | 44 | 11 | 103/104 | AM #3 | Remediation Work - See Operational Alert Posting on Natural's EBB | TBD if Needed | Midcontinent: South of Constraint | If remediation is required, all transport services are at risk of not being fully scheduled. |
| 04/18/19 | 06/30/19 | 74 | 13 | 107 / 108 | AM #3 M/L | Remediation Work - See Operational Alert Posting on Natural's EBB | TBD if Needed | AMARILLO M/L: West of Constraint | If remediation is required, all transport services are at risk of not being fully scheduled. |
| 04/18/19 | 07/31/19 | 105 | 14 | 109 / 199 | AM #3 | Remediation Work - See Operational Alert Posting on Natural's EBB | TBD if Needed | IOWA-IL: East of Constraint | If remediation is required, all transport services are at risk of not being fully scheduled. |
| 04/23/19 | 04/28/19 | 6 | 22 | 301 | 301 | Performing maintenance on pipeline at CS 301. Requires CS 301 to be shut-in for duration of work. | CS 301 | SOUTH TEXAS: South of Constraint | No: (AOR/ITS/SOP) Primary scheduled to minimum of no less than 61% of contract MDQ, for gas flowing southbound through CS 301. |
| 04/24/19 | 04/24/19 | 1 | 11 | 104/105 | AM #3 | ILI Tool Runs - See latest Posting on Natural's EBB | CS 104 | Midcontinent: South of Constraint | No: (AOR/ITS/SOP) Primary scheduled to minimum of no less than 38% of contract MDQ, for gas flowing northbound through CS 104. |

As posted on NGPL's internet website. Highlighted rows are Integrity-related projects

Proprietary Information

**Natural Gas Pipeline Company of America LLC
Outage Impact Report**

Last Updated: April 24, 2019

| | | | | | | | | | |
|----------|----------|----|----|---------|------------|--|---------------|--|---|
| 04/25/19 | 05/09/19 | 15 | 26 | 303/302 | GC #3 | ILI Tool Runs | CS 302 | TEXOK GC: North of Constraint | No: (AOR/ITS/SOP) Primary only southbound through CS 302 into SEG 22 and SEG 25. |
| 04/29/19 | 05/04/19 | 6 | 27 | 309 | GC #2 M/L | Remediation Work - See Operational Alert Posting on Natural's EBB | TBD if Needed | GULF COAST: South of Constraint | If remediation is required, all transport services are at risk of not being fully scheduled. |
| 04/30/19 | 05/15/19 | 16 | 13 | 108 | AM #2 M/L | Remediation Work - See Operational Alert Posting on Natural's EBB | TBD if Needed | AMARILLO M/L: West of Constraint | If remediation is required, all transport services are at risk of not being fully scheduled. |
| 05/01/19 | 05/24/19 | 24 | 22 | 302 | GC #1 M/L | Remediation Work - See Operational Alert Posting on Natural's EBB | TBD if Needed | SOUTH TEXAS: South of Constraint | If remediation is required, all transport services are at risk of not being fully scheduled. |
| 05/01/19 | 05/24/19 | 24 | 22 | 302/301 | GC #1 | Performing pipeline maintenance between CS302 and CS 301. | CS 302 | SOUTH TEXAS: South of Constraint | NO: (AOR/ITS/SOP) flowing southbound through CS 302 into Segment 22. |
| 05/07/19 | 05/09/19 | 3 | 9 | 167 | Permian #1 | ILI Tool Run | CS 167 | Permian: North of Constraint | NO: (AOR/ITS/SOP) Primary/SIP scheduled to minimum of no less than 77% of contract MDQ northbound through CS 167. |
| 05/14/19 | 05/14/19 | 1 | 25 | 343 | | ESD | CS 343 | TEXOK GC: West of Constraint | At Risk: (AOR/ITS/SOP/SIP/Primary) for gas flowing eastbound into SEG 25. |
| 05/21/19 | 05/23/19 | 3 | 9 | 167 | Permian #1 | Hot Tap Installation - New LOC 53667 3 BEAR - TRES OSOS | TBD if Needed | Permian: North of Constraint | At Risk: (AOR/ITS/SOP/SIP/Primary) Flowing northbound into SEG 8. |
| 05/21/19 | 05/23/19 | 3 | 15 | 801 | AG #1 | Hot Tap Installation - New LOC 50164 MIDSHIP | None | TEXOK A/G: East of Hot Tap | No Impact |

As posted on NGPL's internet website. Highlighted rows are Integrity-related projects

Natural Gas Pipeline Company of America LLC
Outage Impact Report

Last Updated: April 24, 2019

| | | | | | | | | | |
|----------|----------|----|----|---------|------------|--|----------------------------|--|---|
| 06/04/19 | 06/04/19 | 1 | 11 | 105/106 | AM #3 | ILI Tool Run | CS 106 | Midcontinent: South of Constraint | NO: (AOR/IT, SOP) Primary at risk. |
| 06/06/19 | 06/13/19 | 8 | 2 | 801 | AG #1 | Install Launcher & Receiver | LOC 901458 DCP Chitwood | Midcontinent: West of Constraint LOC | Unavailable: LOC 901458 DCP Chitwood. No transport services will be scheduled. |
| 06/10/19 | 08/02/19 | 54 | 13 | 107 | AM #2 | Install Launcher & Receiver | None | AMARILLO M/L: East of work | No Impact |
| 06/11/19 | 06/28/19 | 18 | 26 | 303/304 | GC #3 | ILI Tool Runs | CS 302 | TEXOK GC: North of Constraint | No: (AOR/ITS/SOP) Primary only southbound through CS 302 into SEG 22 and SEG 25. |
| 06/11/19 | 06/21/19 | 11 | 23 | 342 | LA #1 | ILI Tool Runs | CS 342 | Louisiana: East of Constraint | No: (AOR/ITS/SOP) Primary only eastbound into SEG 23. |
| 06/12/19 | 06/12/19 | 1 | 11 | 105/106 | AM #3 | ILI Tool Run | CS 106 | Midcontinent: South of Constraint | NO (AOR/IT, SOP) Primary at risk. |
| 06/18/19 | 07/11/19 | 24 | 8 | 167/168 | Permian #1 | ILI Tool runs | CS 168 | Permian: South of Constraint | At Risk: (AOR/ITS/SOP/SIP/Primary) for northbound flow into Midcontinent Zone. |
| 06/25/19 | 07/11/19 | 17 | 22 | 302/301 | GC #2 | ILI Tool Run | CS 302 | SOUTH TEXAS: South of Constraint | No: (AOR/ITS/SOP) Primary only southbound through CS 302 into SEG 22. |
| 08/01/19 | 09/30/19 | 61 | 25 | 343 | LA #2 | Relocation Tie-IN - LOC 44528 GOLDEN PASS | CS 343 | TEXOK GC: West of Constraint | At Risk: (AOR/ITS/SOP/SIP/Primary) for flow eastbound through CS 343. |
| 08/13/19 | 08/22/19 | 10 | 22 | 302 | | ILI Tool Runs | CS 302 | SOUTH TEXAS: South of Constraint | LOC 11249 Not Available. All transport services not available. |
| 09/03/19 | 09/30/19 | 28 | 13 | 107/108 | AM #2 | Install Launcher & Receiver | None | AMARILLO M/L: East of work | No Impact |

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