

2021 Communication Meeting

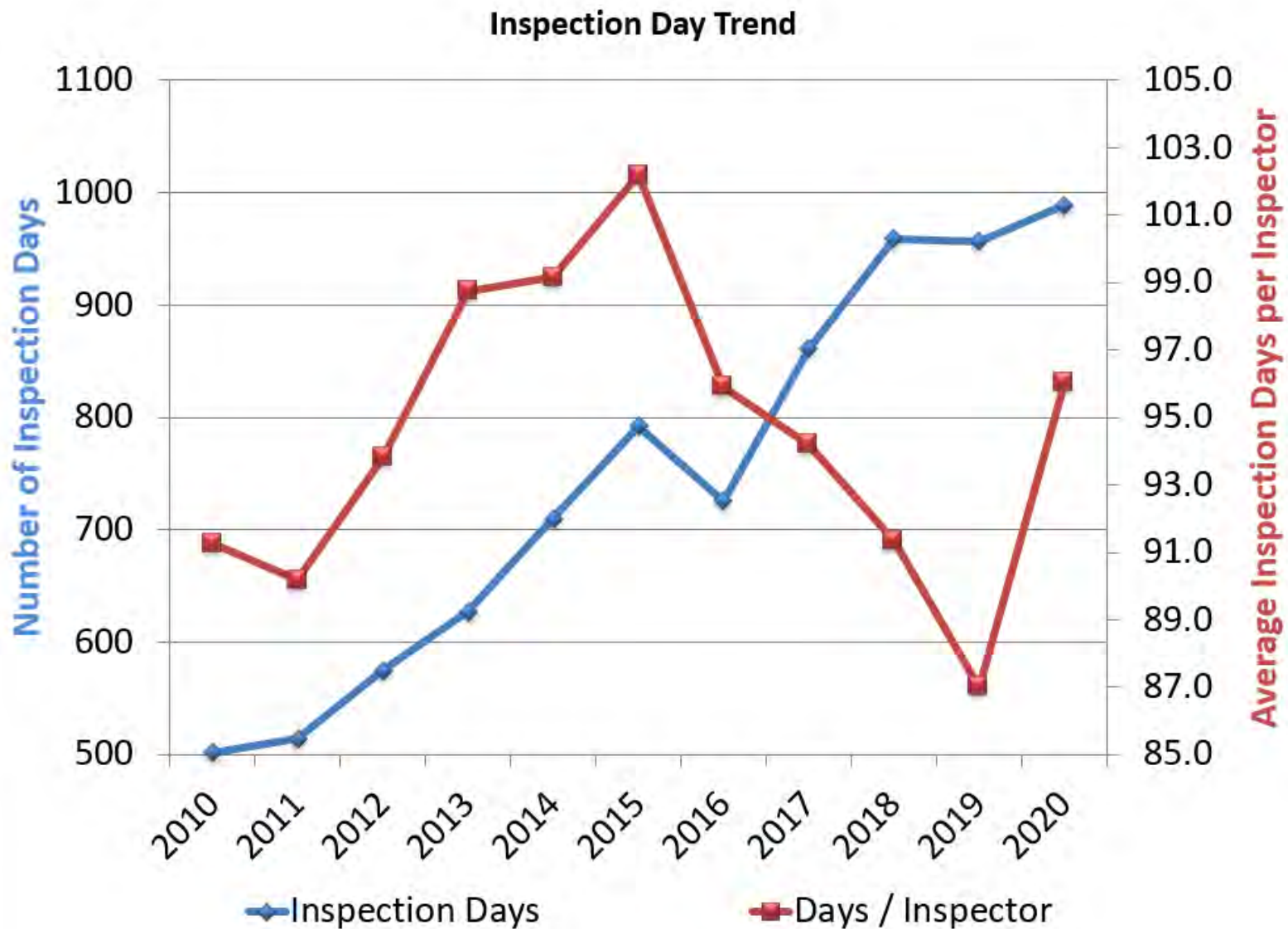
Michigan Public Service Commission
Energy Operations Division



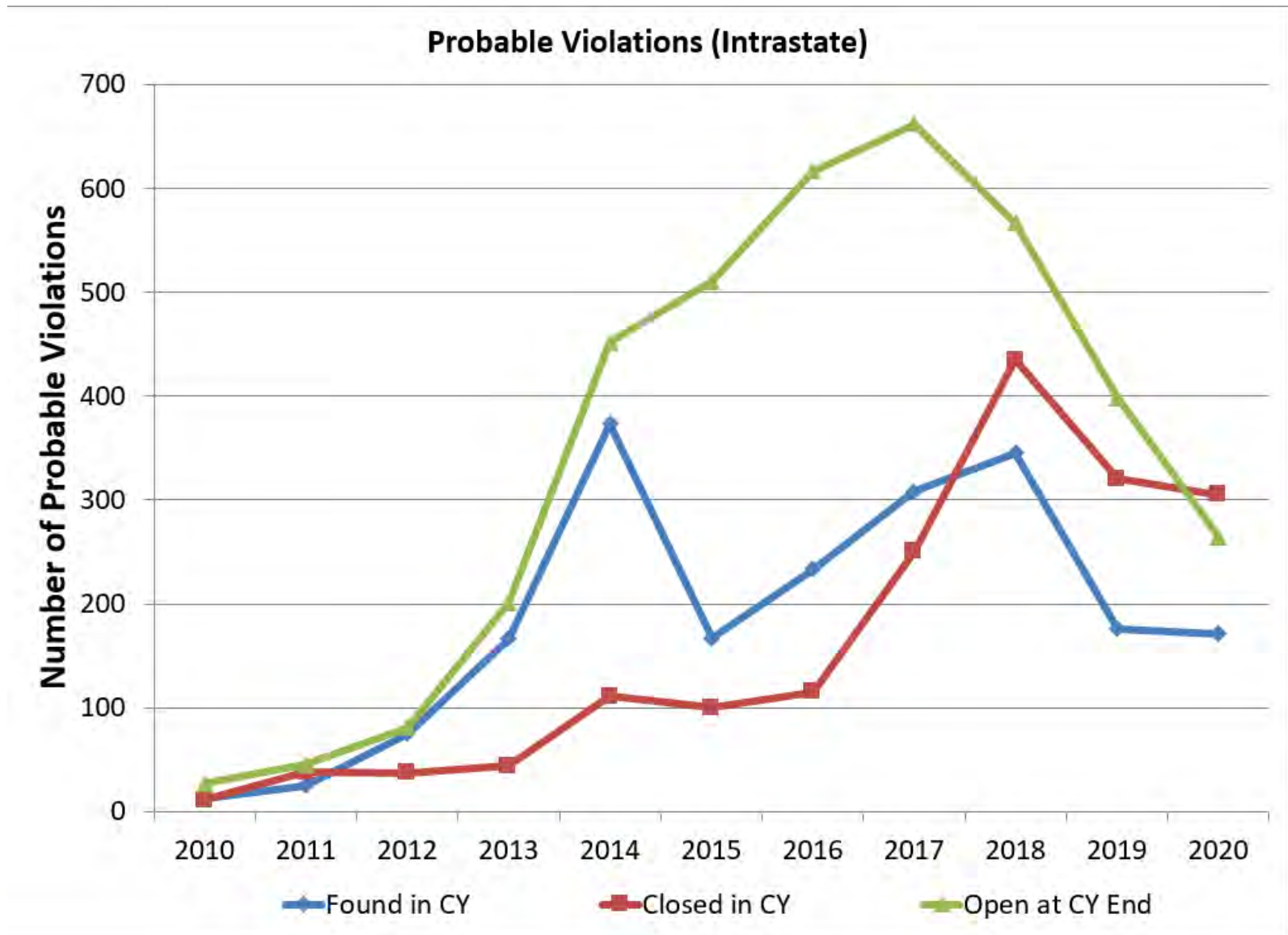
Underground Natural Gas Storage Safety Program

- MPSC applied for a Grant for an Underground Natural Gas Safety Program under 49 USC 60141.
- Partnership with EGLE
 - MOU with EGLE is being developed
- Program specifics and Inspection Plans are being finalized.
- The State will be responsible for intrastate inspections in 2021.

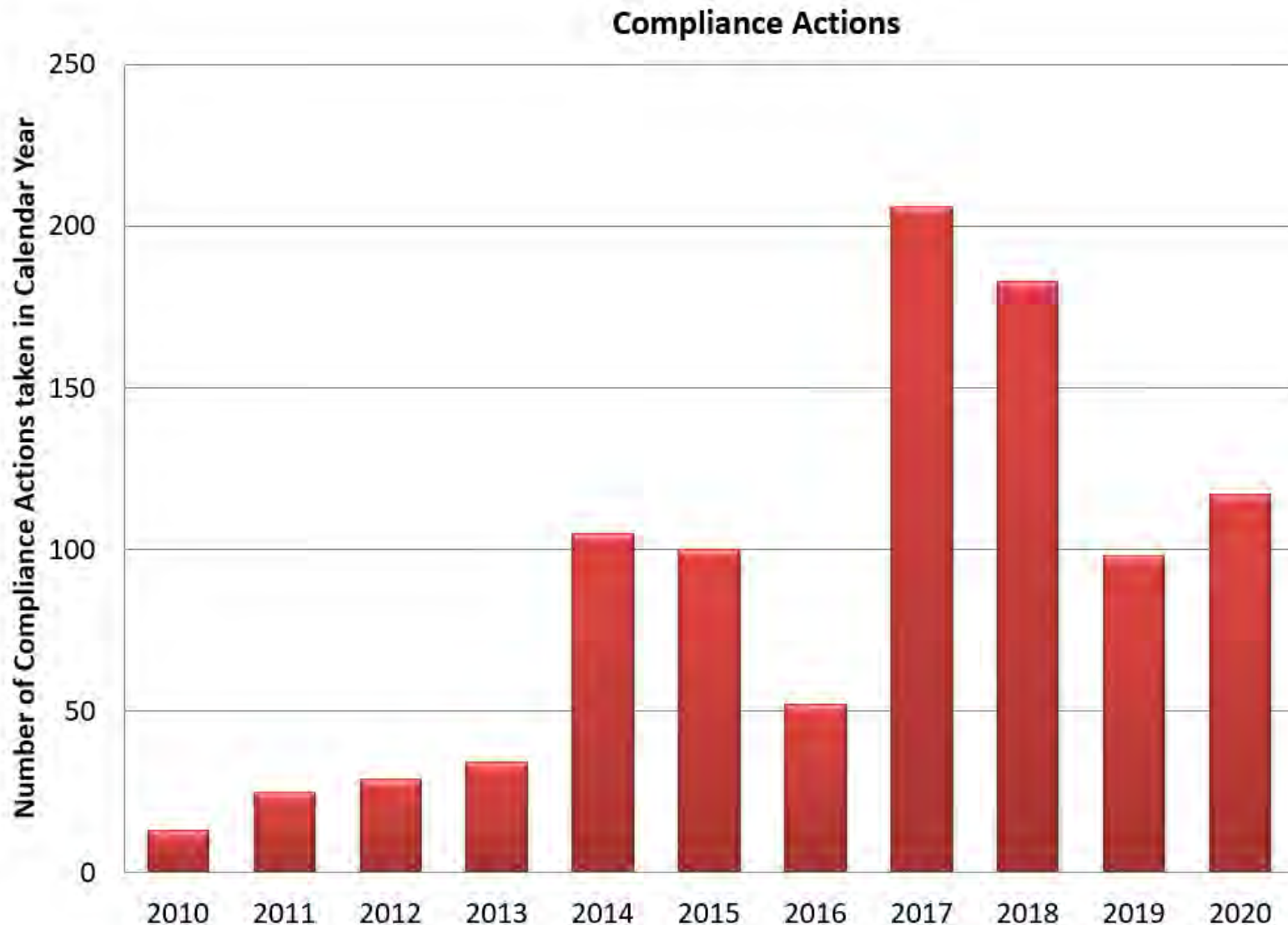
Gas Safety Program Statistics



Gas Safety Program Statistics



Gas Safety Program Statistics



Risk Based Inspections

- Forms:
 - Plastic Distribution Construction
 - Plastic Transmission Construction
 - Steel Distribution Construction
 - Steel Transmission Construction
 - Service Lines
 - Transmission O&M
 - Distribution O&M
 - Iron O&M
 - Compressor Stations
 - Atmospheric Corrosion
 - External Corrosion
 - Internal Corrosion
 - Transmission MAOP
 - Distribution MAOP
 - Pressure Control
- Minimum of one additional inspection day per unit and per form that the model produced (over and above existing standard and construction inspection expectations).

Risk Based Inspections

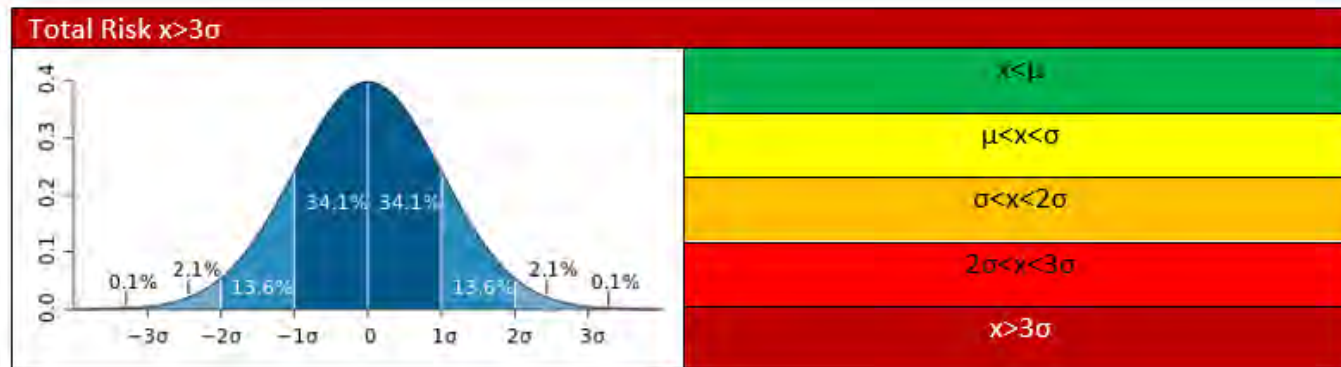
- Risk = Likelihood x Consequence

Risk Buckets Triggered:

- Plastic Distribution Construction (PDC)
- Service Lines (SL)
- Distribution O&M (DOM)
- External Corrosion (EC)
- Pressure Control (PRC)

Reason for Bucket:

PDC:



Higher than Average Likelihood, Higher than Average Consequence

- % Growth (new plastic construction): **Higher than Average (1.54%)**
- # of NOPV (in last 5 years): **Higher than Average (4)**

Damage Prevention Statistics

(Gas Distribution)

2019 Excavation Damages

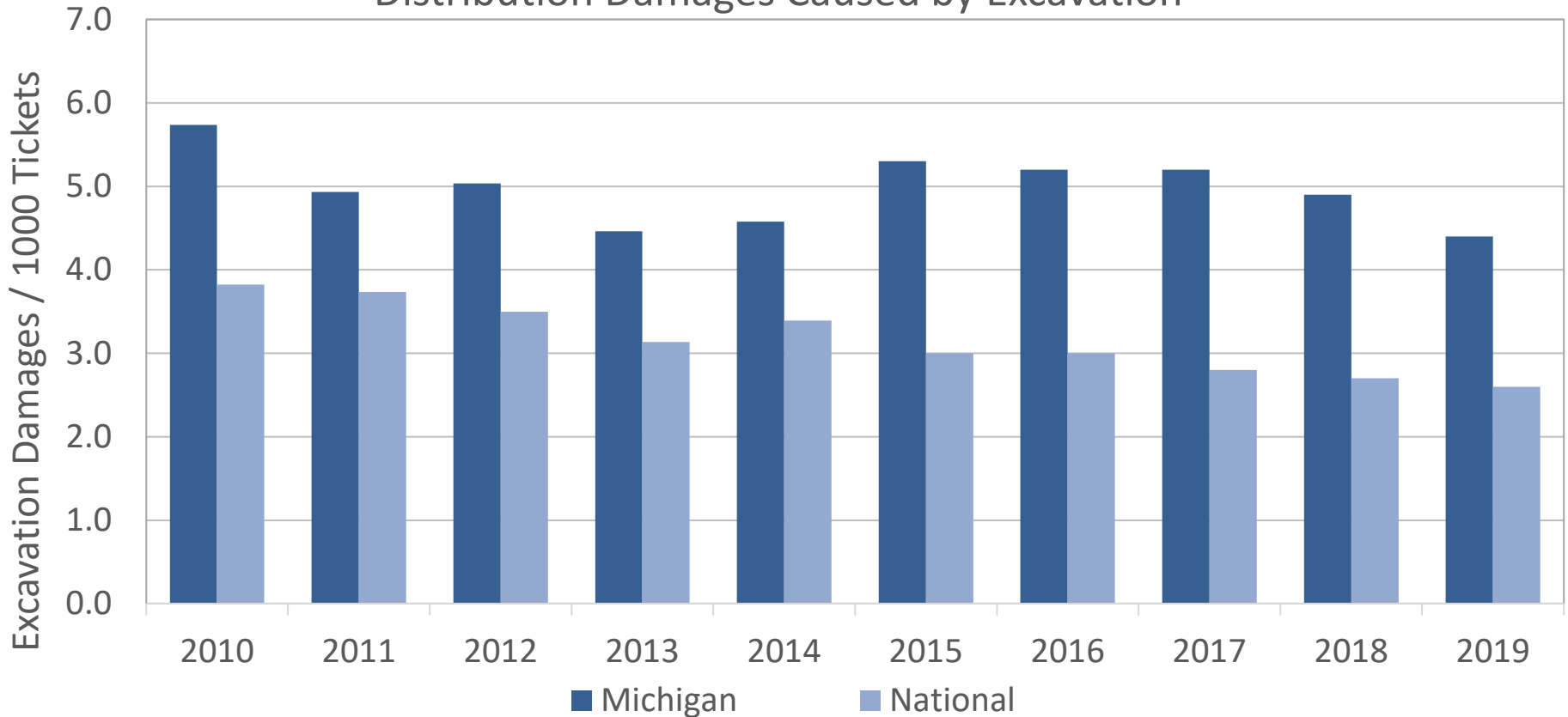
Michigan	
Total Excavation Damages	4,117
Total Excavation Tickets	928,529
Excavation Damages / 1000 Tickets	4.4

National	
Excavation Damages / 1000 Tickets	2.6

Damage Prevention Statistics

(Gas Distribution)

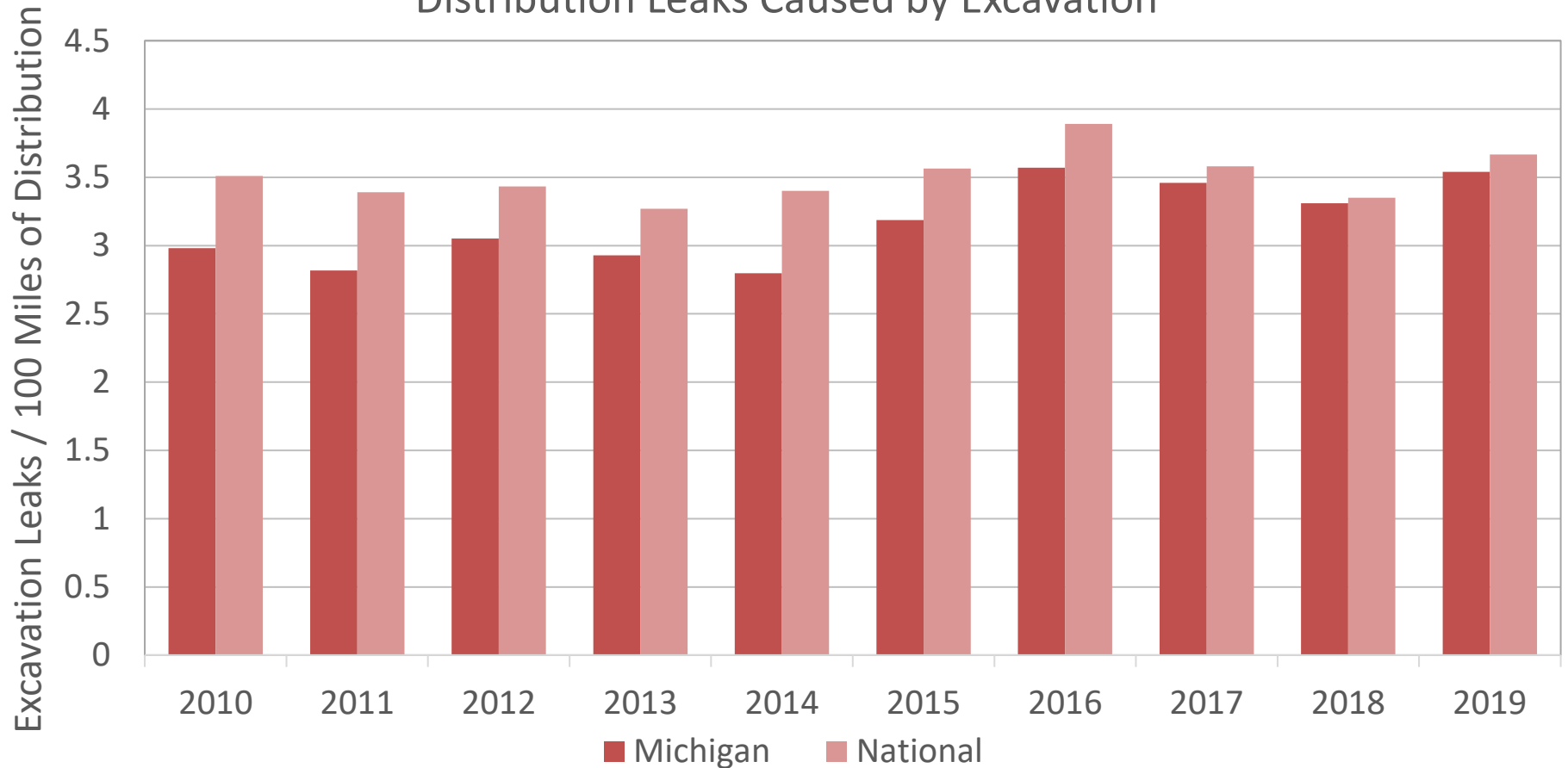
Distribution Damages Caused by Excavation



Damage Prevention Statistics

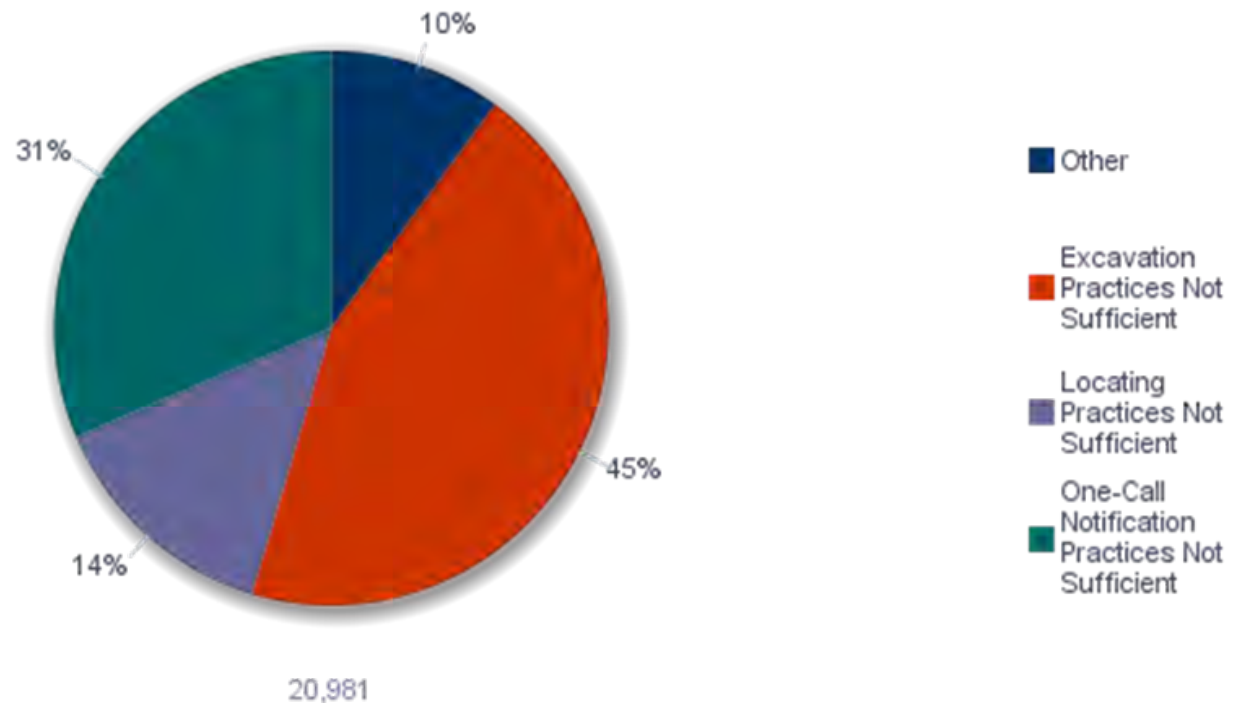
(Gas Distribution)

Distribution Leaks Caused by Excavation



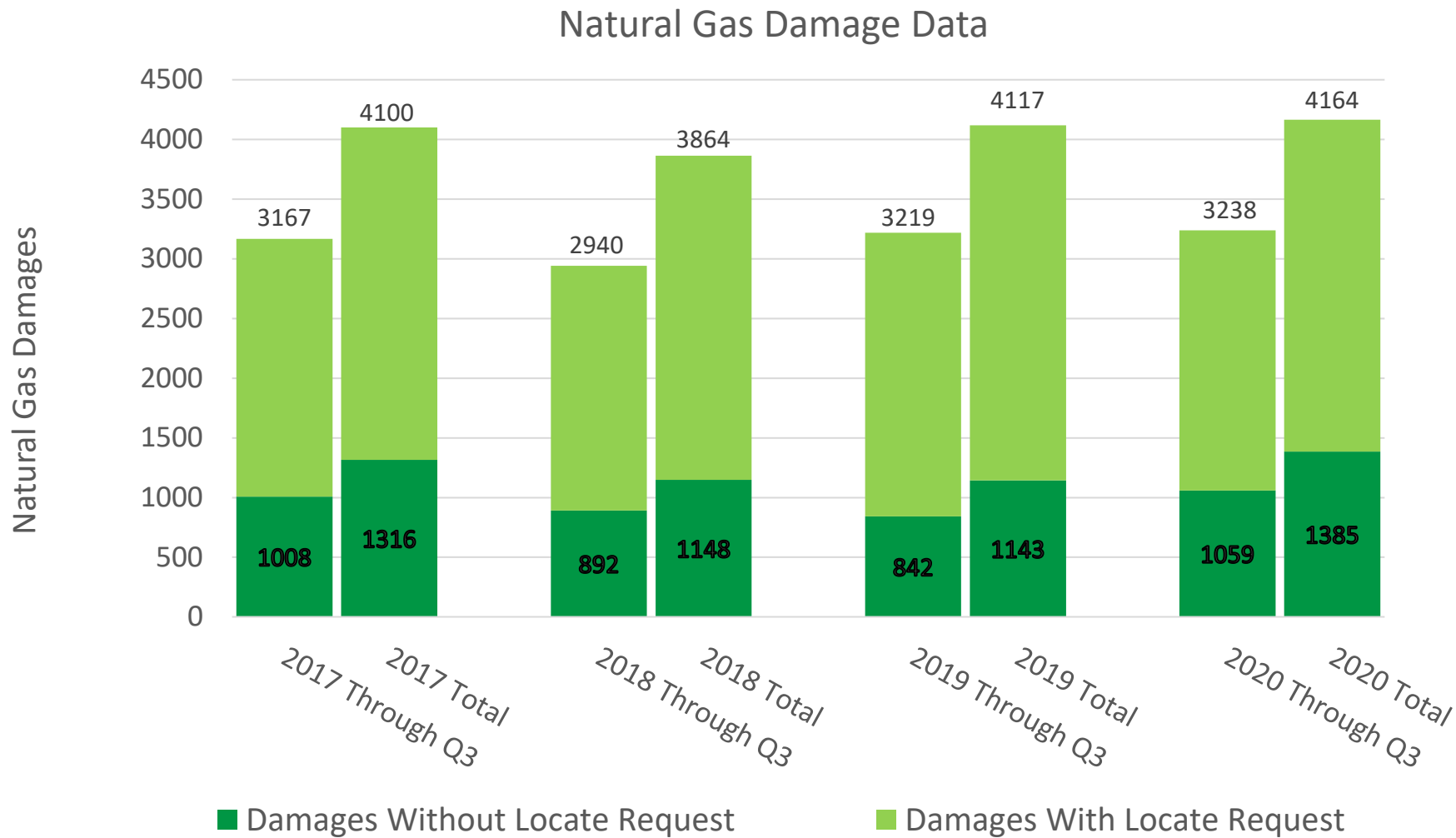
Damage Prevention Statistics

(Gas Distribution Pipeline Excavation Damages by Root Cause 2017 – Present)

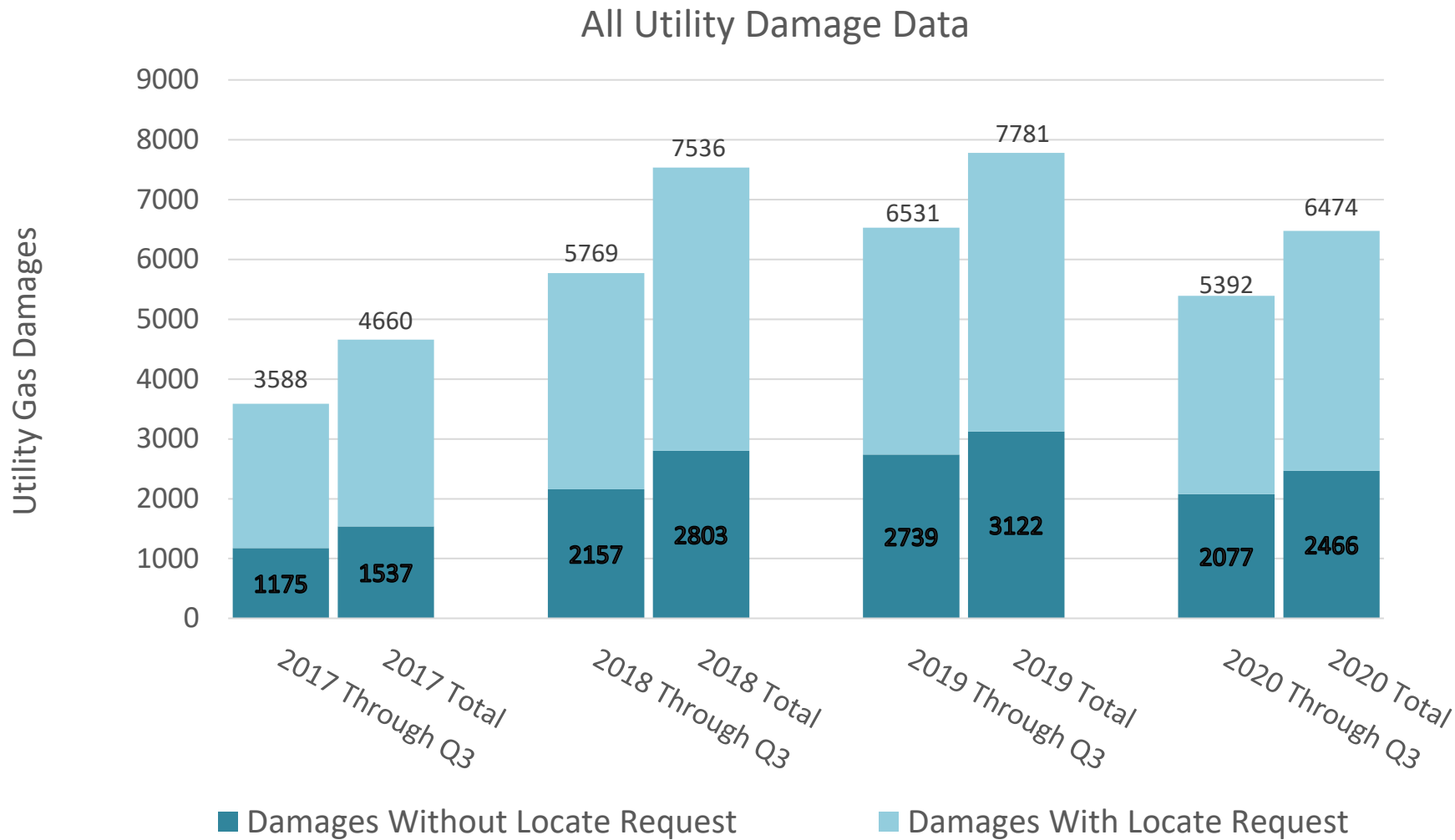


Calendar Year	Number of Excavation Tickets	Number of Excavation Damages	Damages per Thousand Tickets	One-Call Notification Practices Not Sufficient	Locating Practices Not Sufficient	Excavation Practices Not Sufficient	Other	One-Call Notification Practices Not Sufficient	Locating Practices Not Sufficient	Excavation Practices Not Sufficient	Other
2019	928,529	4,117	4.4	1,362	716	1,556	483	33%	17%	38%	12%
2018	819,538	4,054	4.9	1,177	633	1,954	290	29%	16%	48%	7%
2017	822,578	4,271	5.2	1,238	636	2,108	289	29%	15%	49%	7%

Damage Prevention Statistics



Damage Prevention Statistics



Damage Reporting

- Quarterly Damage Reporting
 - Due by 15th day of the second month following each quarter
 - Accurate, valid data
 - Future: Submission Portal
- GDAR Damage Reports
 - Part D – Excavation Damage
 - Audit - 2015 to present

Jotham Povich

- Area of Responsibility:
 - Northwest Lower Michigan
- Cell: 231-357-8816
- Email: povichj1@michigan.gov

Significant Incident – 4515

- Equipment Failure / Overpressure with rupture
- Characteristics
 - Compressor station facility
 - Injection pipeline MAOP 4000
 - Withdrawal pipeline MAOP 1050
 - \$400k in damages
 - 26.5 mcf gas lost
- Description
 - Debris caused damage to isolation valve ball and seats, combined with ineffective maintenance, leading to leaky valve.
 - Leaky valve was between injection and withdrawal pipelines.
 - Overpressure Protection inadvertently isolated, causing portion of MAOP 1050 pipe to be unprotected.
 - Pressure within the MAOP 1050 pipe rose and rupture occurred on above ground section of piping.
 - No injuries or ignition.
 - Under investigation.

Significant Incident – 4515 (Cont.)



Kristen Lawless

- Area of Responsibility:
 - Central Michigan
 - Damage Prevention
- Cell: 517-331-6554
- Email: lawlessk@michigan.gov

Significant Incident – 4160

- Third Party Damage
- Characteristics
 - Two-inch steel distribution main
 - Emergency water main repair
- Description
 - Staking error
 - 35 customer outages, 34-hour duration
 - Violations: 192.614(c)(5) – Failure to provide temporary marking of buried pipelines.

Significant Incident – 4988

- Third Party Damage
- Characteristics
 - 20-inch steel transmission
 - Directional drilling
- Description
 - Not marked
 - Violations: 192.614(c)(5) – Failure to provide temporary marking of buried pipelines.
 - Excavator Violations: MCL 460.725(9) – Failure to stop excavation when positive response indicates presence of a facility with no marks visible.



Significant Incident – 4988 (Cont.)

- No Damage
- Characteristics
 - Distribution main
- Description
 - Recommendation: Establish a set interval to hand expose.
 - MCL 460.725(5): “For excavations in a caution zone parallel to a facility, an excavator shall use soft excavation at intervals as often as reasonably necessary...”



Karen Krueger

- Area of Responsibility:
 - South/Central Michigan
 - Operator Qualification
- Cell: 517-582-8619
- Email: kruegerk1@michigan.gov

Significant Incident – 5004

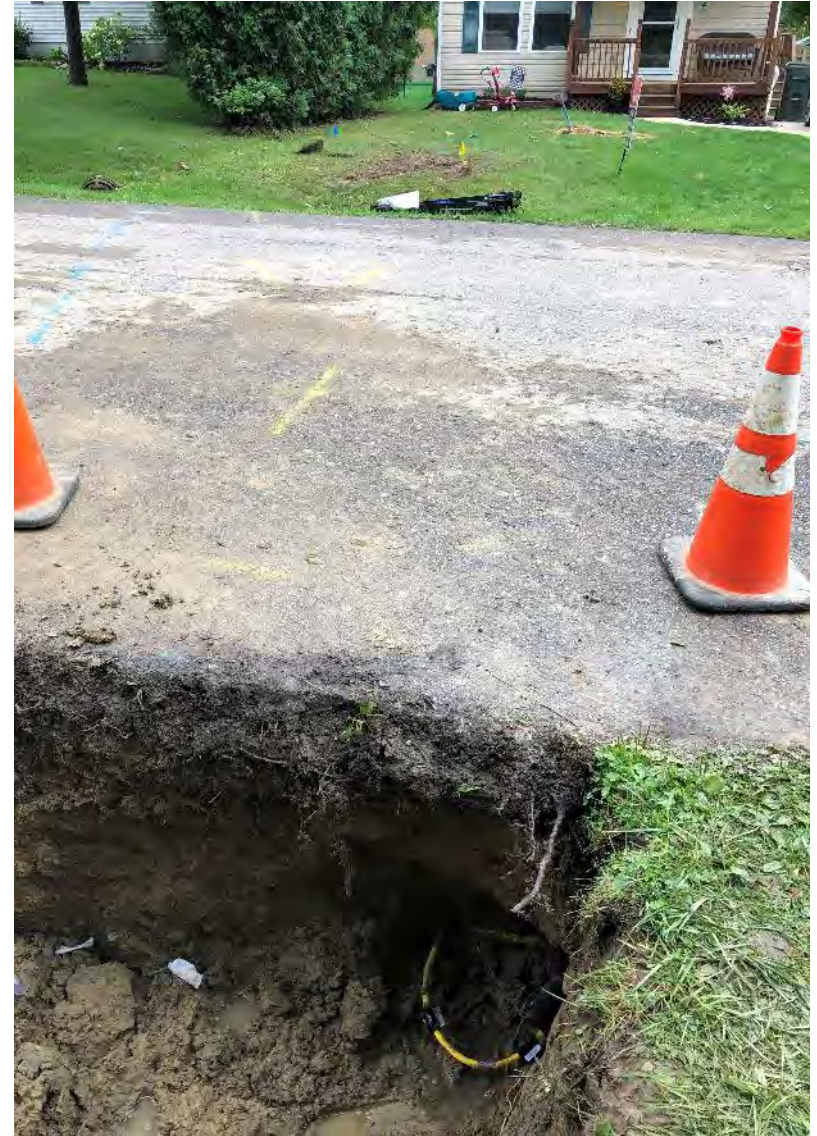
- Compressor Station Fire
- Characteristics
 - Compressor Station Facility
 - Operating pressure: 748 psig
 - \$72,599 in damages
- Description
 - During routine compressor maintenance, body bleed valves were opened but not documented on lock out / tag out procedure. They were not locked or tagged.
 - No injuries or fatalities
 - Under investigation

Significant Incident – 5004 (Cont.)



Significant Non-Compliances

- 192.614(c)(5) – Failure to provide temporary marking of buried service line.
- R460.20501(2)(a) – Failure to maintain map showing location of ‘looped’ service line.



Significant Non-Compliances

- 192.805(a) – Failure to identify covered tasks.
- 192.805(c) – Failure to adequately define span-of-control for each task.
- 192.805(g) – Failure to define evaluation intervals for each task.
- 192.805(h) – Failure to ensure that individuals have the necessary knowledge and skills to perform the tasks.
- 192.805(i) – Failure to notify the state agency if the operator of significant program modifications.

Robert Gregg

- Area of Responsibility:
 - Northern Lower Peninsula
 - Damage Prevention
 - Drug & Alcohol Program
- Cell: 517-930-5269
- Email: greggr1@michigan.gov

Significant Non-Compliances

- 40.25(a) – Failure to request drug and alcohol testing information from previous DOT regulated employers for employees seeking to perform covered functions.
 - Municipality exemptions permitted under Federal Motor Carrier Safety Administration (FMCSA) rules are not valid under PHMSA rules.

Significant Non-Compliances

- 199.105(d) – Reasonable Cause Testing -
The decision to test must be based on reasonable and articulable belief that the employee is using a prohibited drug on the basis of specific, contemporaneous physical, behavioral, or performance indicators.
 - Operator employee stated, “he didn’t think he’d pass a drug test.”
 - Operator correctly drug tested employee under non-DOT testing because requirement of 199.105(d) were not met.

Brian Gauthier

- Area of Responsibility:
 - Southeast Michigan
 - Northeast Lower Peninsula
 - Drug & Alcohol Program
- Cell: 517-930-4968
- E-mail: gauthierb2@michigan.gov

Significant Non-Compliances

- 192.614(c)(5) – Failure to provide temporary marking of buried pipelines.
- R460.20501(2)(a) – Failure to maintain maps and records showing pipeline locations.
- 192.721(a) – Failure to adequately patrol distribution mains.
- 192.805(b) – Failure to follow OQ Program and ensure qualification through evaluation.

Kyle Friske

- Area of Responsibility:
 - Southeast Michigan
 - Transmission Integrity Management
 - Distribution Integrity Management
- Cell: 517-290-9605
- Email: friskek@michigan.gov

Significant Incident – 4956

- Equipment Failure / Leak
- Characteristics
 - 4-6-inch Steel Main
 - MAOP 400 psig
 - 1957 vintage control fitting gasket
 - \$618k in damages
- Description
 - Leak found during leak survey.
 - Two new control fittings were required to stop leak.
 - Installation of 884 feet of new 6-inch steel.

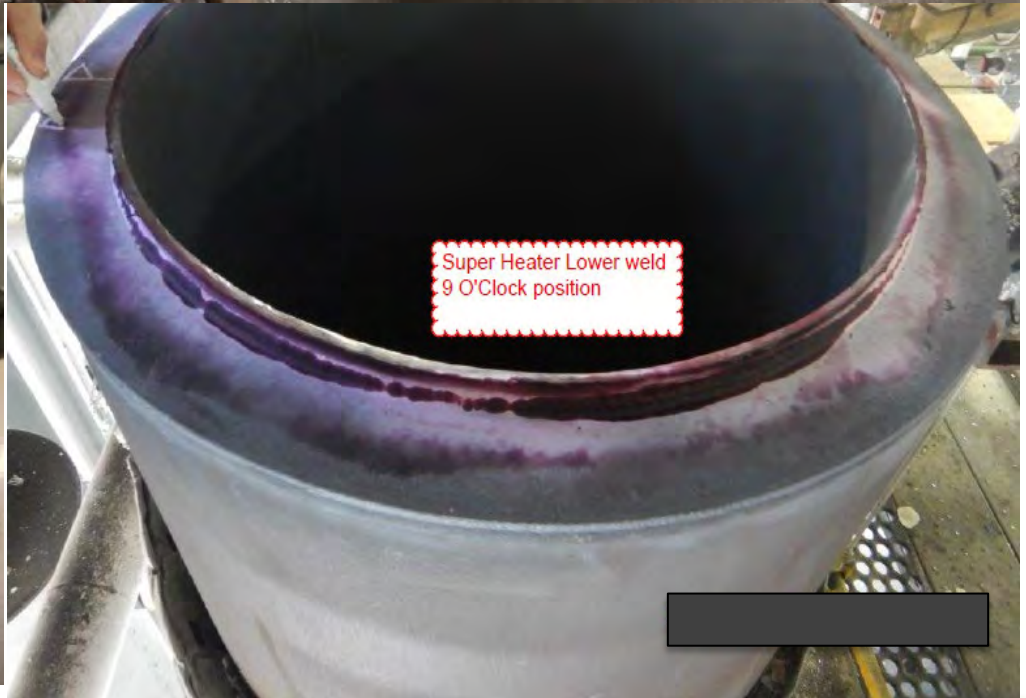
Significant Incident – 4956 (Cont.)



Significant Incident – 5250

- Equipment Failure / ESD
- Characteristics
 - Indoor Compressor Station Dehydration System
 - \$200k in damages
- Description
 - Thermal exhaust stack weld cracked allowing high-temp exhaust to leak into building.
 - Heat signature triggered fire eye resulting in an ESD.
 - Recurring issue due to thermal stresses of superheater incorporated into stack.

Significant Incident – 5250 (Cont.)



Significant Incident – 5285

- Third-Party Damage / House Explosion
- Characteristics
 - Threaded/Coupled Dist. Main
 - 28' from residence
- Description
 - City working on sewer lateral repair.
 - Gas main separated during backfill/compacting.
 - Operator onsite and in process of leak investigation when explosion occurred.
 - Under investigation.

Significant Incident – 5285 (Cont.)



Significant Non-Compliances

- 192.245(b) – Failure to remove defect while making service tee weld repair.
- 192.479(a) – Failure to coat new pipe in a reasonable timeframe.



Significant Non-Compliances

- 192.481(a)– Failure to adequately perform atmospheric corrosion inspections.



Significant Non-Compliances

- 192.739(a) – Failure to inspect regulators.
 - Lock out / tag out or inactive (still on pipeline but valved off).
- 192.747(a) – Failure to inspect (or identify missing) regulator station inlet valves.
 - Not included on valve inspection list.
 - Buried (on schematic, but not visible).
 - Not in existence but required by code.

Significant Non-Compliances

- 192.1007(a) – Failure to identify/address data gaps (unknown data, bad data, etc.).
 - GIS indicates new bare and/or unprotected steel pipe being installed.
- 192.1007(b) – Failure to identify all applicable threats.
 - Model does not currently include above-grade pipe, stations, services, etc.
 - No interim process.
- 192.1007(d) – Failure to clearly define how the high-risk segments / threats are prioritized.
 - Main replacement program project list does not align with the risk ranking.

Tim Dombrowski

- Area of Responsibility:
 - Upper Peninsula
 - Forms/Questions
- Cell: 517-281-2142
- Email: dombrowskit@michigan.gov

Significant Incident – 5173

- Leak – Material Failure of Pipe (Weld)
- Characteristics
 - 16” Steel Transmission
 - Installed in 1965
 - \$895k in damages
- Description
 - Contractor observed leak indication prior to performing integrity repairs.
 - Crack discovered in the vicinity of the planned integrity repair.
 - Remote location of leak, nature of pipeline, and repair method impacted the repair costs.
 - Under investigation.

Significant Incident – 5173 (Cont.)



Significant Incident – 5173 (Cont.)



Significant Non-Compliances

- 192.616(c) – Failure to follow the general program recommendations, including baseline and supplemental requirements of API RP 1162.
 - Did not include nor justify supplemental material.
- 192.743(c) – Failure to install a new or additional device to provide the required capacity required by 192.743(a).
 - Multiple years indicated relief devices were of insufficient capacity with no physical upgrade to system.

Heather David

- Area of Responsibility:
 - Central Michigan
 - Construction
 - Incident Investigations
- Cell: 517-256-0342
- Email: davidh@michigan.gov

Significant Incident – 4155

- Compressor Rupture
- Characteristics
 - MAOP 974 psig
 - 36-inch header piping
 - \$563,327 damages
- Description
 - Modifications in 1998 included a concrete foundation that restrained vertically, but not laterally.
 - Failure occurred at a girth weld on a 2" siphon.
 - Caused by reversed bending fatigue – thermal expansion and contraction of a 36-inch header.

Significant Incident – 4155 (Cont.)



Significant Incident – 4155 (Cont.)

- 192.161(a)(1) – Failure to design the pipeline and its associated equipment with sufficient anchors or supports to prevent undue strain on connected equipment.
- Recommendation: Utilize siphon to remove liquids where liquids could collect.
- Recommendation: Conduct a review of other facilities for similar design to prevent reoccurrence.



Significant Incident – 4416

- Leak on Transmission Line
- Characteristics
 - 16” pipeline flanged valve
 - MAOP 274 psig
 - High Consequence Area
- Description
 - Leak first identified in Aug 2018 and monitored annually.
 - In April 2020, the operator began monitored overnight and reduced pressure.
 - Excavated and determined to be non-hazardous. Scheduled as a 4-month scheduled action.
 - Leaking segment was replaced with new 8” pipe and valve.
 - 192.703(a) – Failure to repair a hazardous leak promptly.
 - Recommendation: Operators should notify Staff, provide opportunity to observe the repair.

Significant Incident – 4518

- Natural Force Damage
- Characteristics
 - 4" steel main
 - MAOP 60 psig
 - \$3,966,248 damages
- Description
 - Roadway washout caused severed main.
 - One-way feed: 476 outages.
 - CNG provided temporary service for several weeks.
 - 6.25 miles of new main.



Significant Incident – 5261

- Third-party Damage
- Characteristics
 - 6" plastic main newly installed
 - MAOP 60 psig
 - 1314 outages due to loosing a primary feed.
 - 2.7 Mmcf gas loss
 - \$213,274 damages
- Description
 - 192.614(a) – Inaccurate staking. Staking contractor marked an abandoned main 7 feet away from new main.
 - Recommendation: Formal process to provide redline as-builts to staking contractor until redlines are incorporated into mapping.
 - Recommendation: Staking contractor be given access to abandoned pipeline maps.
 - Recommendation: Label locating wires inside test stations.

Significant Incident – 5261 (Cont.)



Significant Non-Compliances

- 192.603(b)/192.615(b)(2) – Failure to maintain records to demonstrate that annual emergency training occurred, and the training was effective.
- 192.615(c) – Failure to maintain liaison with appropriate fire, police, and other public officials.

Significant Non-Compliances

- 192.225(a) – Welder failed to follow welding procedure
 - Outside amperage range.
- 192.241(a)(1) – CWI failed to verify welding was performed in accordance with the welding procedure.
- 192.227(a) – Welder failed to follow welding procedure during qualifications.
 - Did not maintain minimum root opening.
 - CWI did not identify.

