Post MAOP Reconfirmation Activities

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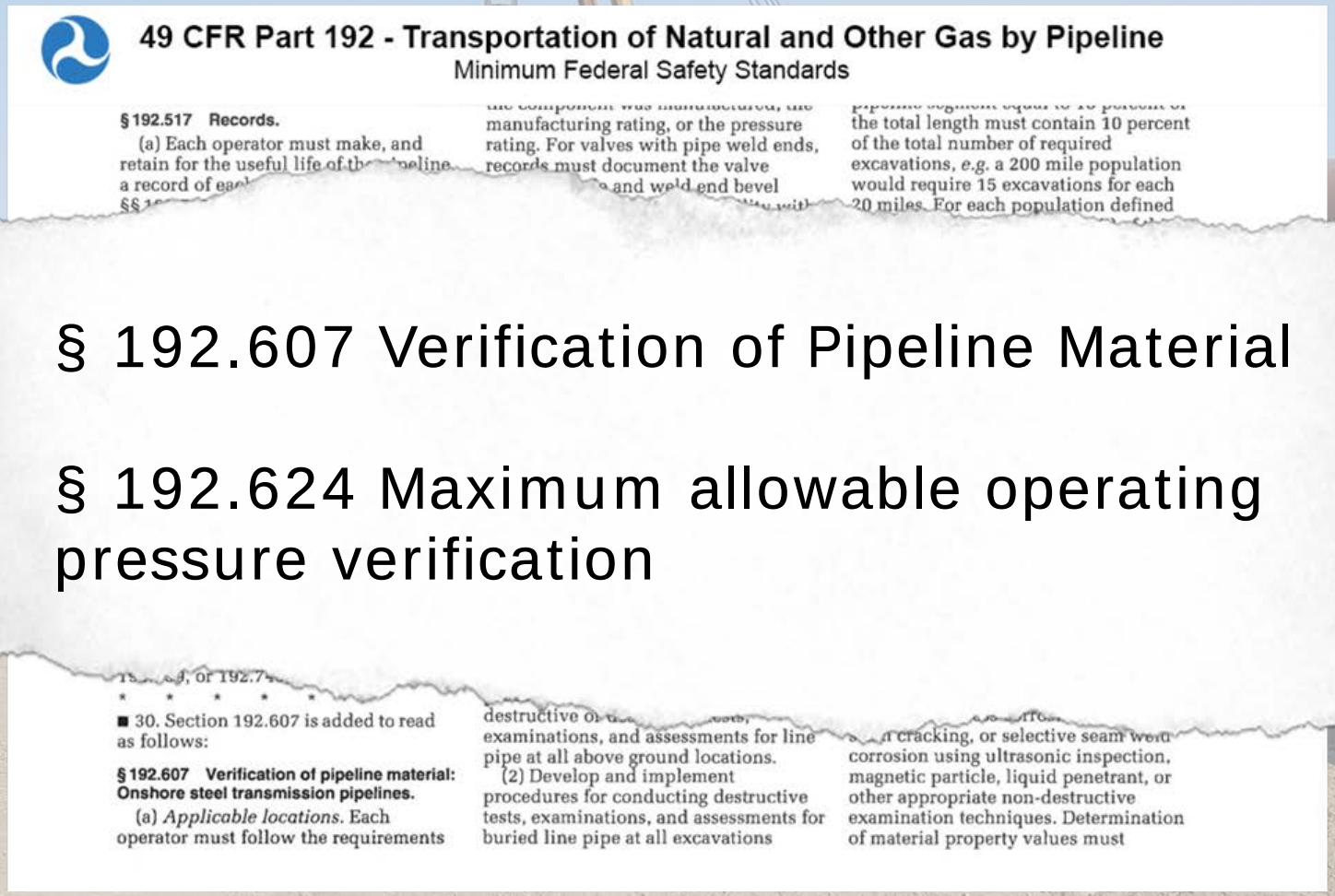
Anticipated Code Updates



49 CFR Part 192 - Transportation of Natural and Other Gas by Pipeline
Minimum Federal Safety Standards

§ 192.517 Records.

(a) Each operator must make, and retain for the useful life of the pipeline a record of each

manufacturing rating, or the pressure rating. For valves with pipe weld ends, records must document the valve and weld end bevel

the total length must contain 10 percent of the total number of required excavations, *e.g.* a 200 mile population would require 15 excavations for each 20 miles. For each population defined

§ 192.607 Verification of Pipeline Material

§ 192.624 Maximum allowable operating pressure verification

, or 192.7

■ 30. Section 192.607 is added to read as follows:

§ 192.607 Verification of pipeline material: Onshore steel transmission pipelines.

(a) *Applicable locations.* Each operator must follow the requirements

destructive

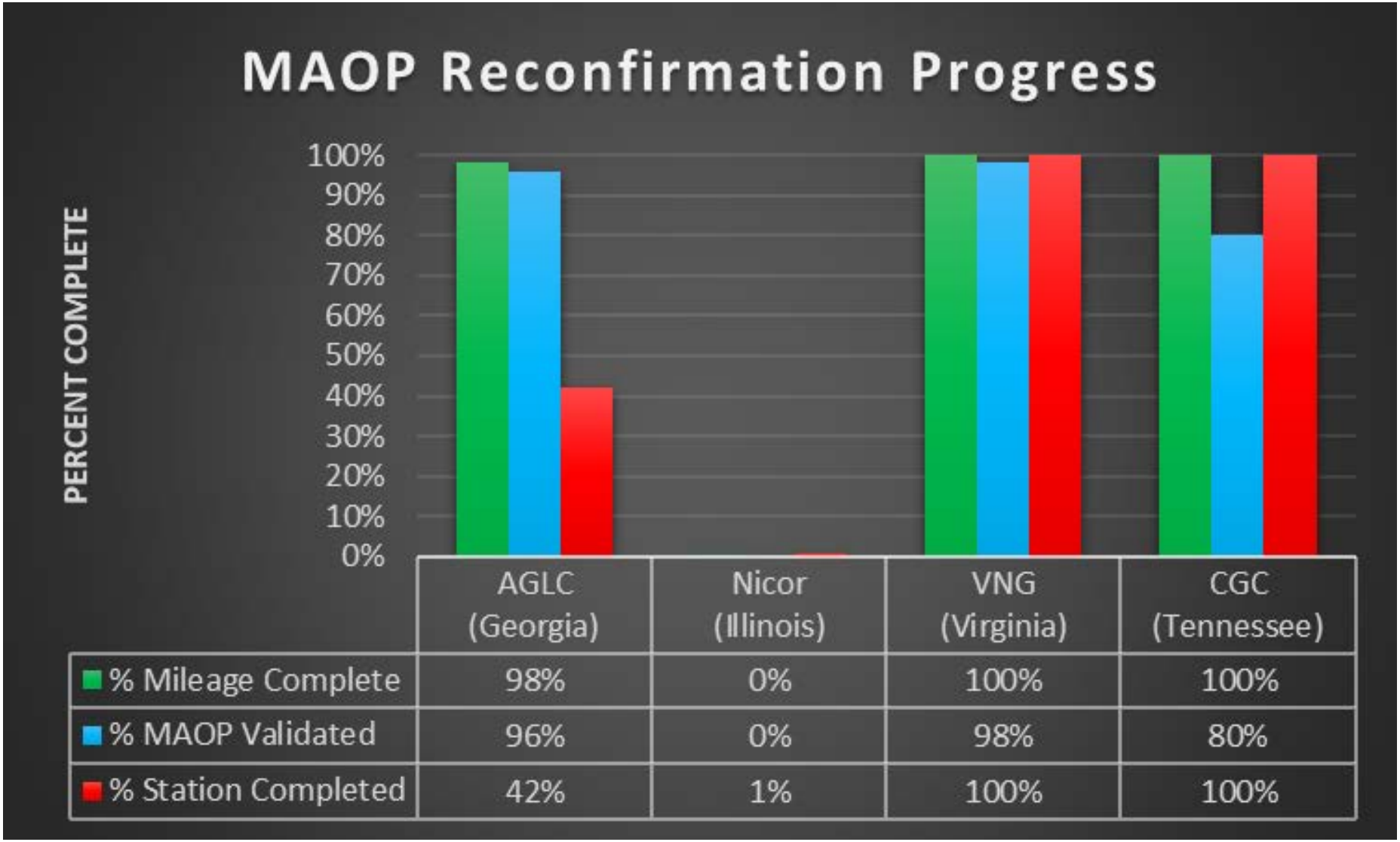
examinations, and assessments for line pipe at all above ground locations.

(2) Develop and implement procedures for conducting destructive tests, examinations, and assessments for buried line pipe at all excavations

cracking, or selective seam weld corrosion using ultrasonic inspection, magnetic particle, liquid penetrant, or other appropriate non-destructive examination techniques. Determination of material property values must

Southern Company Info

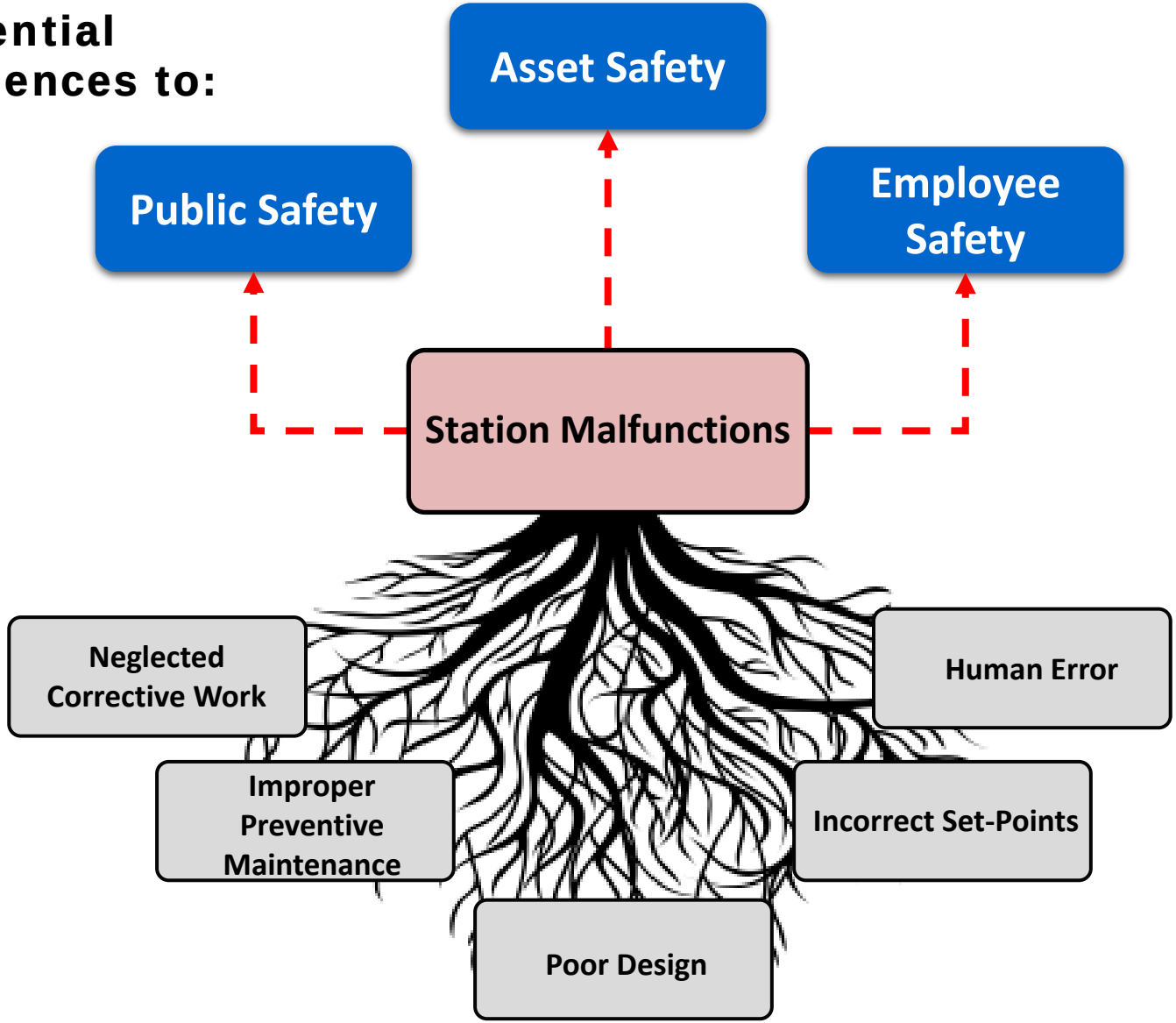
Our MAOP Program Today



	AGLC (Georgia)	Nicor (Illinois)	VNG (Virginia)	CGC (Tennessee)
% Mileage Complete	98%	0%	100%	100%
% MAOP Validated	96%	0%	98%	80%
% Station Completed	42%	1%	100%	100%

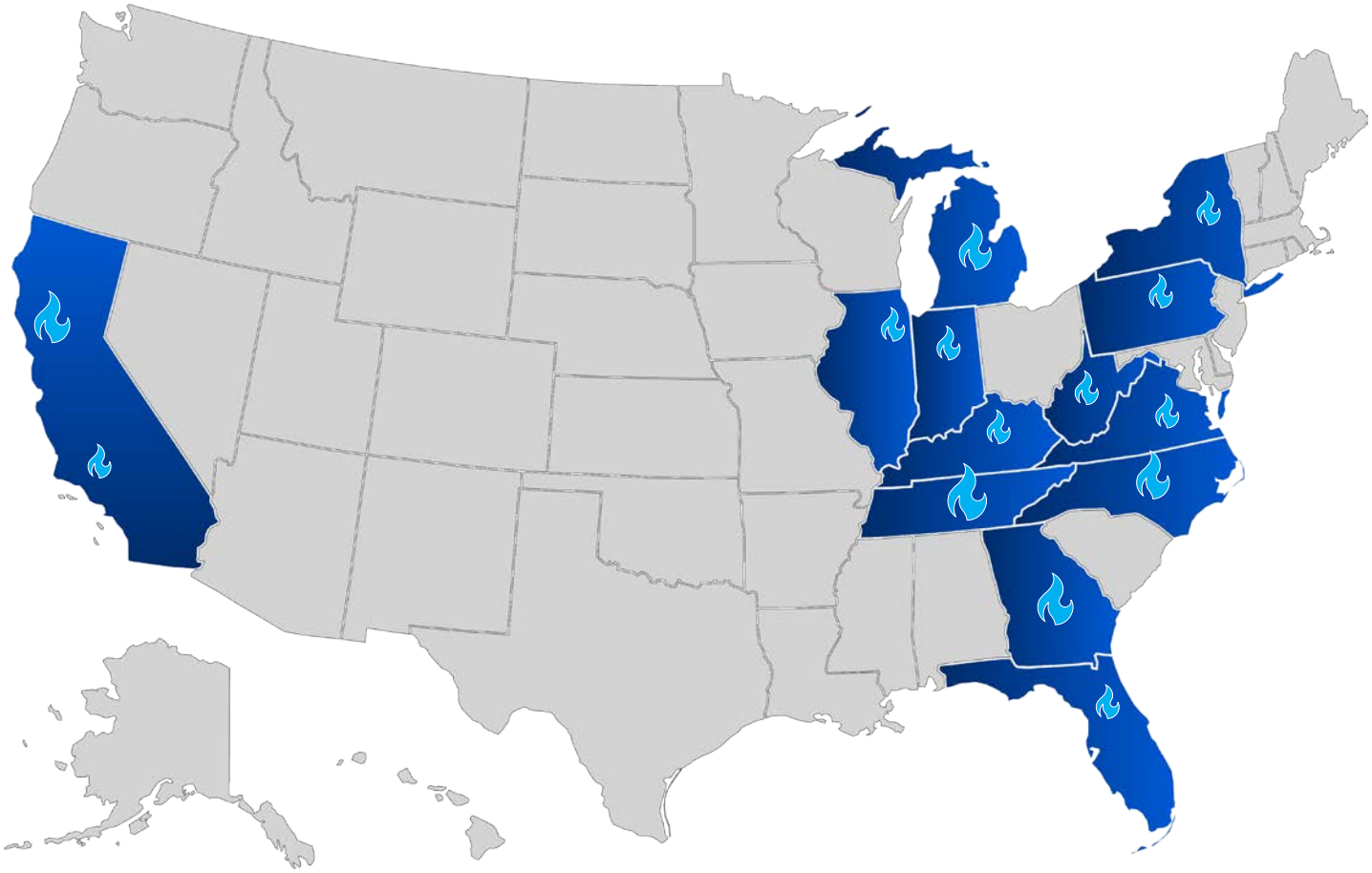
Station Upsets

Potential Consequences to:



Representative Experience: MAOP Reconfirmation

- GTS has extensive experience in MAOP Reconfirmation for pipelines and stations
- Performed MAOP Reconfirmation for thousands of miles of pipelines and hundreds of stations



Pipeline: MAOP Reconfirmation

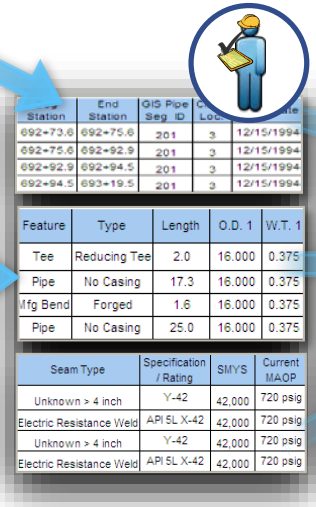
Planning

- Foundational Activities
- Project Team Assembly
- Project Controls

Records Review

- Test Records
- Inspection Records
- Drawings (e.g. As-Built)
- Other Document
- Bills of Material

PFL / SFL Build

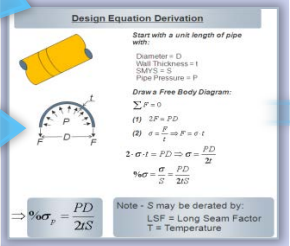


Station	End Station	GIS Pipe Seg ID	C... Loc...	...ne
692+73.6	692+75.6	201	3	12/15/1994
692+75.6	692+92.9	201	3	12/15/1994
692+92.9	692+94.5	201	3	12/15/1994
692+94.5	693+19.5	201	3	12/15/1994

Feature	Type	Length	O.D. 1	W.T. 1
Tee	Reducing Tee	2.0	16.000	0.375
Pipe	No Casing	17.3	16.000	0.375
Mfg Bend	Forged	1.6	16.000	0.375
Pipe	No Casing	25.0	16.000	0.375

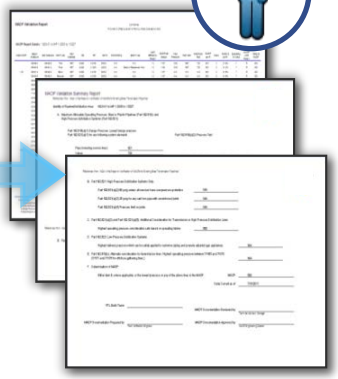
Seam Type	Specification / Rating	SMYS	Current MAOP
Unknown > 4 inch	Y-42	42,000	720 psig
Electric Resistance Weld	API 5L X-42	42,000	720 psig
Unknown > 4 inch	Y-42	42,000	720 psig
Electric Resistance Weld	API 5L X-42	42,000	720 psig

Engineering Analysis



- Calculations Review
- Issues Analysis

MAOP Reconfirmation

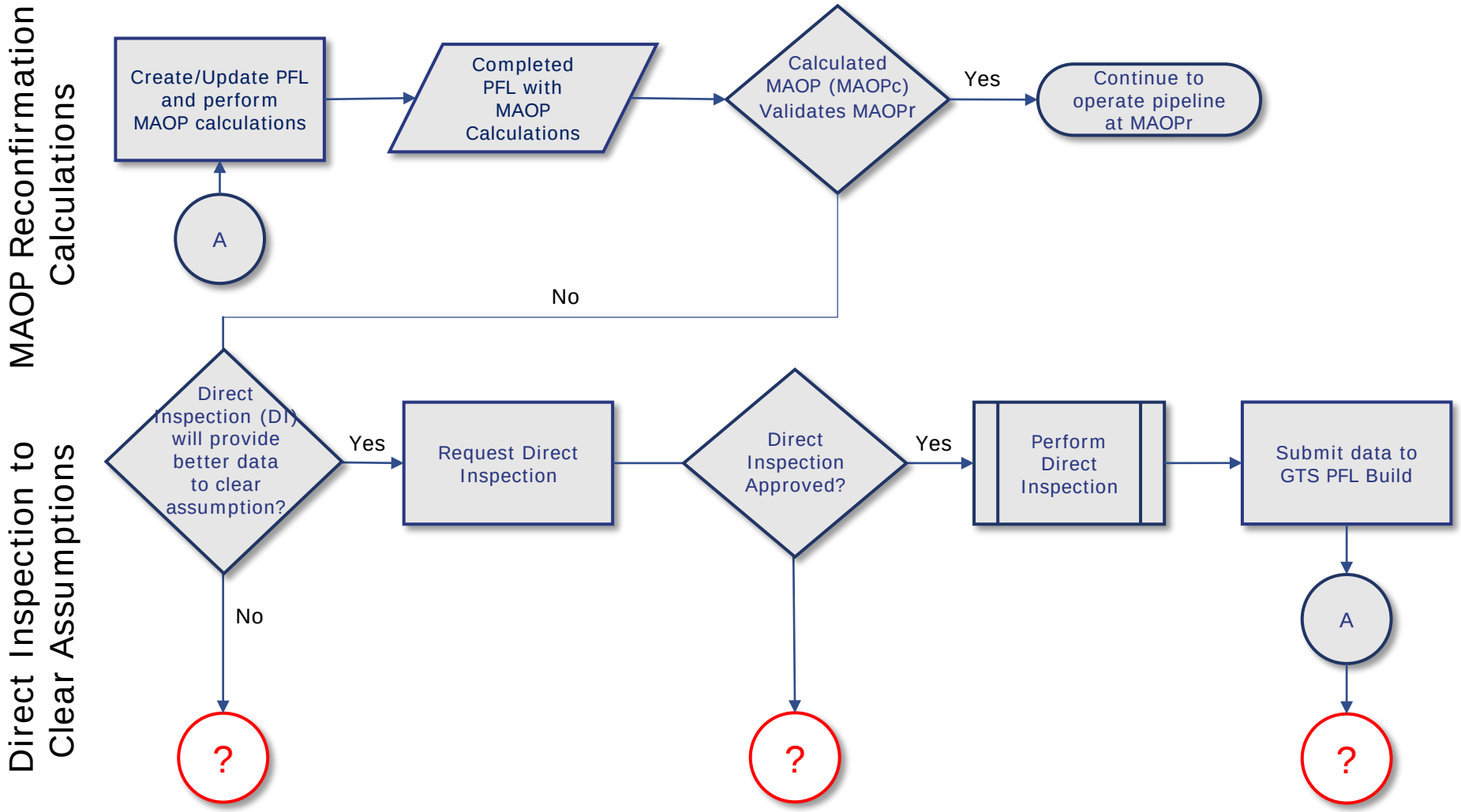


Post MAOP Reconfirmation

- Logic Diagrams
- Issues Resolution
- Budgeting for Issues Resolution

Logic Diagrams

Establish logic diagrams to efficiently resolve gaps:

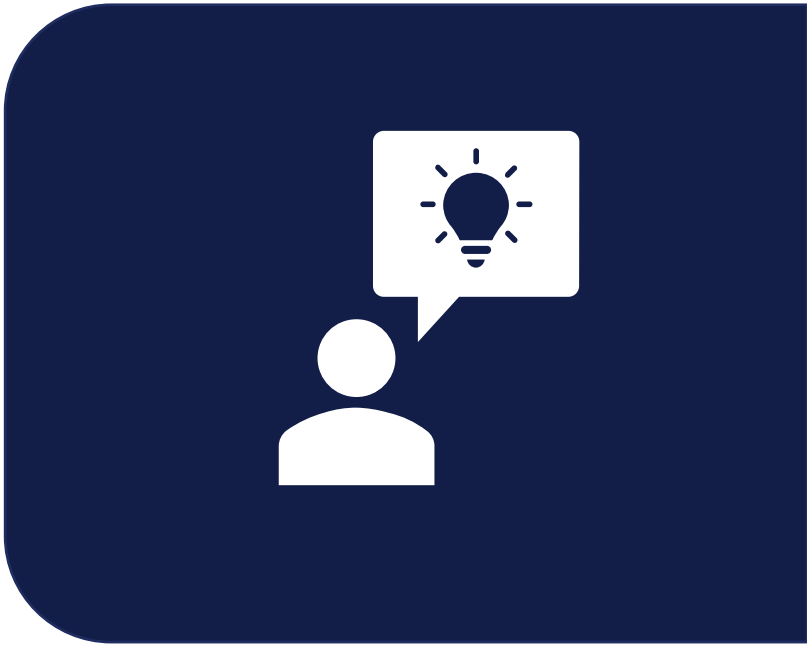


Gaps from Issues Analysis

- Data and knowledge gaps are Records issues
- Missing, conflicting, poor quality, unknown specifications
- Application of conservative assumptions
- Does not satisfy MAOP
- Must have T, V & C Records

Issues Prioritization and Recommendations

- Identify, Categorize and Prioritize Gaps
- Types of issues: Records Issue and MAOP Issue
- Established Client-determined Prioritization
- Recommendations provided for identified gaps
- Remedial actions must be cost effective, time-based, realistic



Cost Estimates

Analogous

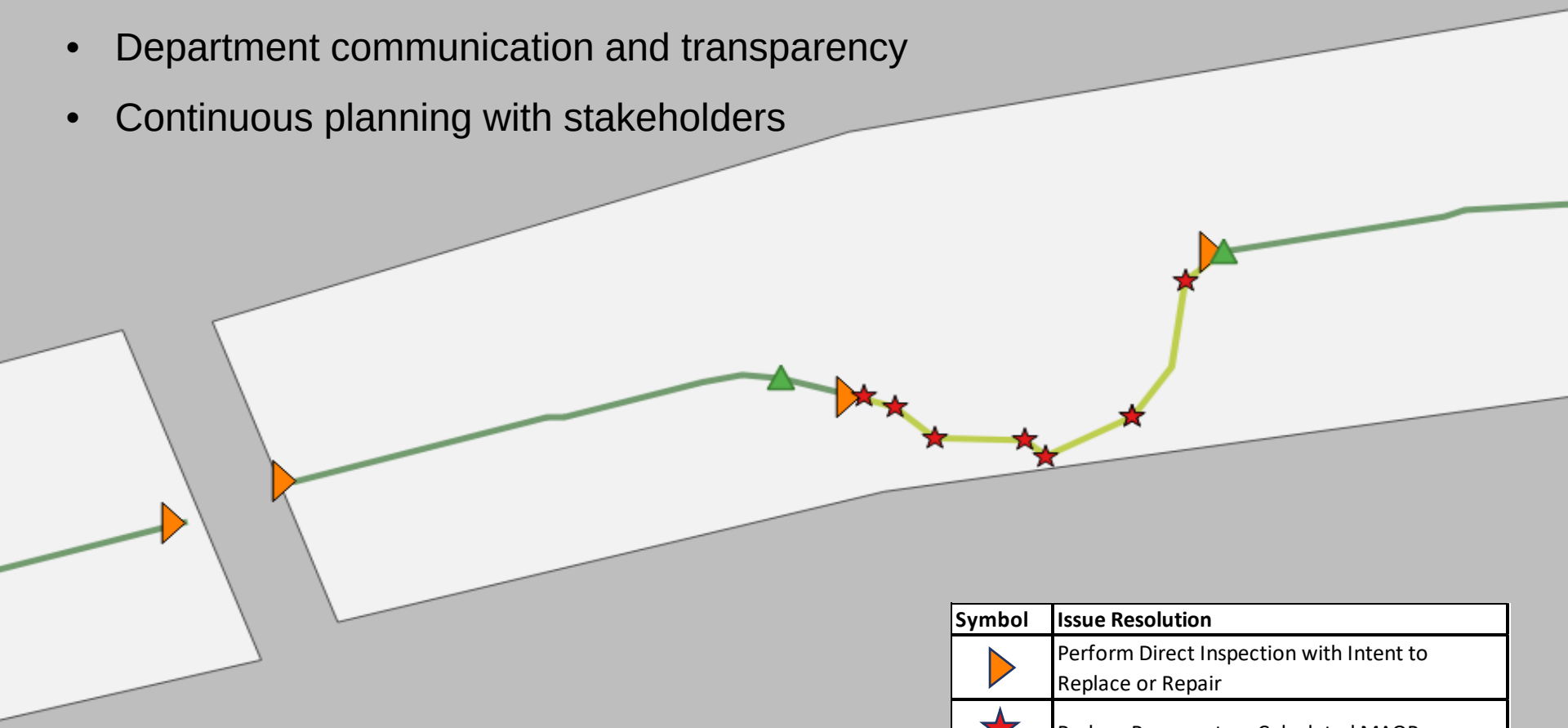
Parametric

Cost Benefit Analysis

Program Budgeting

Combine Work

- Thoughtful project scoping
- Department communication and transparency
- Continuous planning with stakeholders



Symbol	Issue Resolution
▶	Perform Direct Inspection with Intent to Replace or Repair
★	Reduce Pressure to < Calculated MAOP
▲	Perform Direct Examination to Validate Records

Capture Data into System of Record

- As-builts have to be feature based
- Method for loading into GIS
- Protocols to continuously check
- Timely updates to the System of Record

Path Forward

Development of a Remediation plan:

1. Prioritization
2. Filling Data Gaps
3. Goal of zero conservative assumptions, zero unknowns

Lessons Learned

- Setting Foundation
- Process, process, process!
- Continuous Improvement
- Set Realistic Expectations

Questions?

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