NAPSR Perspectives on Pipeline Safety-Related Research & Development Projects

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About NAPSR

- **National Association of Pipeline Safety Representatives**, a non-profit organization of State regulatory personnel formed in 1982.
- No income, but PHMSA supports by providing an administrative manager (Robert Clarillos) to NAPSR. PHMSA supports state programs.
- State programs work closely with PHMSA and conduct their own inspections and enforcement in States with program certification.
- 50 State programs (include Puerto Rico and Washington DC; HI and AK no program) - 14 States also have hazardous liquid programs - several States also have interstate agent status.
- 5 meetings held in Regions; 1 National Meeting (each held on an annual basis).
- NAPSR Mission: “To strengthen pipeline safety programs by improving pipeline safety standards, and promoting education, training and the integration of new technology”.

NAPSR Focus for 2018

- Review all issued PHMSA NPRMs and Final Rules and provide input from a State regulator perspective.
- Continue to work with industry organizations to discuss issues and consider all viewpoints on rulemaking and standards.
- Continue State gas, HL and interstate (as applicable) inspection and enforcement efforts.
- Continue to work with industry organizations to discuss issues and consider all viewpoints(PL General).
- Continue efforts to achieve “adequate” status for State damage prevention programs.

NAPSR R&D Focus

- NAPSR does not provide funding for R&D projects.
- NAPSR will review new technology in light of existing regulations and provide constructive input if requested.
- NAPSR will work with PHMSA R&D and other industry organizations on specific projects if requested.
- NAPSR may offer suggestions on new technology or processes that may help to increase pipeline safety in regard to State program concerns, inquiries and new ideas/discoveries when solicited.
- NAPSR supports any R&D efforts that provide a way for pipeline operators to promote public/pipeline safety or to increase efficiency in operating their pipeline systems.

NYSEARCH Millennium Funding

- This is a NYSEARCH R&D Program with funding from sponsors.
- Supported by New England pipeline operators.
- Supported (to the extent possible), by several New England State pipeline safety programs, especially New York.
- Projects include development and testing of PE electro-fusion joint inspection tool, enhancements to the Explorer robotic smart pig, inspection tool for unpiggable transmission mains, fiber optic pipeline monitoring and over 150 different R&D projects.

NAPSR Top NYSEARCH Priorities

- Additional advanced techniques for Non-Destructive Evaluation of PE Pipe Joints.
- New techniques/portable tools to inspect plastic pipe from external surface or internally.
- Advancement of data analytics to gain value from methane and visual asset detection by drones (both distribution and transmission sector).
- Technologies to reduce flaring/GHG Emissions from LDC and other pipeline operations.
- Optimization of Cathodic protection systems – advances in smart CP monitoring and automation.

Gas Technology Institute (GTI) Operations Technology Development (OTD)

- GTI is funded by operators and PHMSA.
- Many important R&D projects have been developed through GTI efforts.
- Projects can be found on www.gastechnology.org.
- Operations Technology Development organization is a separate non-profit group that focuses on how to develop a technology and make it available to operators, contractors, etc.
- Project summaries and technical reports available at: http://www.otd–co.org/newsroom/Documents/OTD_2017-Summaries_FullReport.pdf
- NAPSR supports these R&D efforts.

Southwest Research Institute

- Non-profit. Conducts testing and lab work on flow components including regulators, valves, downhole and drilling tools, piping, etc.
- Develops software for the oil and gas industry.
- Participates in testing of new technology.
- Operators can also use SwRI for lab testing for failure investigations.
- NAPSR supports the work that SwRI does to promote pipeline safety and efficient operations.

Other R&D Priorities:

Tools or Processes for Identifying Plastic Pipe Degradation/Failures

- Continued focus needed on processes for identifying plastic pipe degradation.
- Early vintage plastic pipe exists in many systems (PVC, ABS, Aldyl-A and HD, etc.).
- Suggest continued work on testing of early vintage pipe and continuation of PPDC tracking work.
- Development of a matrix using testing results to identify risk levels for each type of pipe and year.
- Publication of results for operators to use in Distribution Integrity Management (DIMP) programs.

Material Tracking and Traceability Technology

- Identification and tracking of materials remains key to locating inadequate material and equipment.
- There are several systems being marketed to help with identification and tracking of materials.
- Need to continue to improve these systems and find ways for smaller operators to integrate them into their O&M Plans without a large expense.

Improved Technology for Assessment of Casings

- Casings that are “shorted” can result in accelerated corrosion and other issues.
- Established methods of detection of electrical isolation are often inadequate.
- Casings protected with anodes can cause additional challenges to determination of electrical isolation.
- Need communication of R&D results back to operators.

Development of In Line Inspection Tools for Small Diameter Pipelines

- Current Explorer II technology can inspect pipelines down to 6” in diameter.
- Need micro technology to enable internal inspection of even smaller diameter steel pipelines that may be operating at transmission SMYS or at higher distribution pressures.
- Nano-technology – is this possible?
- Research labs are working on enhancements to the Explorer robotic inspection tool.

Technology for Monitoring of Graphitization of Cast Iron Pipelines

- Cast Iron deterioration continues to be a high profile issue.
- Equipment to identify graphitization in cast iron pipe and measure the depth of the graphitization are needed for better pipe replacement programs.
- Data on rates of graphitization can help with risk ranking in DIMP programs.

Questions?


NATIONAL ASSOCIATION OF PIPELINE SAFETY REPRESENTATIVES

Thank You!