
DIMP

Prevention Through People

A Company Perspective

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Rick Lonn
Director, Regulatory Compliance



Prevention through People

- At first blush, concept has potential
- Certainly worthy of discussion
- But is there a need?
 - Existing Regulations
 - Company Policies/Procedures
 - Is it within control of the operator?
 - If so is it physically and economically feasible?
 - Does it bring additional value relative to the costs?
 - How would you audit it?
- So how significant is the human element in each threat?
- More importantly, is it already being addressed effectively?

So how Significant is the Human Element?

- **CORROSION:** leak resulting from a hole in the pipe or other component that galvanic, bacterial, chemical, stray current, or other corrosive action causes. (approx 2%)
 - Naturally occurring phenomenon, majority on bare facilities
 - Human Element – is limited at best (Time of construction)
- **NATURAL FORCES:** leak resulting from earth movements, earthquakes, landslides, subsidence, lightning, heavy rains/floods, washouts, flotation, mudslide, scouring, temperature, frost heave, frozen components, high winds, or similar natural causes. (approx 7%)
 - Human Element – None

So how Significant is the Human Element?

- **OTHER OUTSIDE FORCE DAMAGE:** Include leaks caused by fire or explosion and deliberate or willful acts, such as vandalism.(approx 23%)
 - Arson, Fire first, theft, Vehicular
 - Human Element – Yes (Beyond Control and Scope?)
- **MATERIAL AND WELDS:** leak resulting from failure of original sound material from force applied during construction that caused a dent, gouge, excessive stress, or other defect that eventually resulted in a leak. This includes leaks due to faulty wrinkle bends, faulty field welds, and damage sustained in transportation to the construction or fabrication site. Also include leak resulting from a defect in the pipe material, component, or the longitudinal weld or seam due to faulty manufacturing procedures. (approx 3%)
 - Human Element – Yes (At time of construction)



So how Significant is the Human Element?

- **EQUIPMENT AND OPERATIONS:** leak resulting from malfunction of control/relief equipment including valves, regulators, or other instrumentation; *stripped threads* or broken pipe couplings on nipples, valves, or mechanical couplings; or seal failures on gaskets, O-rings, seal/pump packing, or similar leaks. Also include leaks resulting from *inadequate procedures or safety practices, or failure to follow correct procedures, or other operator error.* (approx 6%)
 - Material/Equipment issues - No
 - Operations Human Element – Yes (Procedures/Training)
- **OTHER:** leak resulting from any other cause, such as exceeding the service life, not attributable to the above causes. (approx 18%)
 - Human Element – ???

So how Significant is the Human Element?

- **EXCAVATION:** leak resulting from damage caused by earth moving or other equipment, tools, or vehicles. Include leaks from damage by operator's personnel or contractor or people not associated with the operator (Approx 40%)
 - Human Element – Yes
 - Operator's & their contractors (Approx **16%** of damages)
 - Third Party Excavators (Remaining **84%** of damages)
 - Approx 70% of locates are by utilities and their contractors

Excavation Damage

- Can the Gas Operator move the Ball alone?
- The Nine Elements
 - Participation by all stakeholders
 - Enforcement
- One Call Centers
- State and local CGAs
- RP 1162 communications
- State level training
- OQ

Is the Human Element already being addressed effectively?

- Pre-employment drug testing
- Background checks/References
- Initial technical training
- Safety and OSHA Training
- Refresher training
- Random and For Cause Drug Testing
- Recurring OQ Evaluations
- Special Cause Verifications (OQ for cause)
- Field Assessments/ Internal Audits
- Public Education/RP 1162
- Current Enforcement (Pipeline Safety & Damage Prevention)

In Closing

- Operators are effectively dealing with Human aspect today
- There's always room for improvement, but it should be done within the scope of existing threats existing regulatory requirements.
- States can effectively audit those programs
- It's not obvious that layering on Prevention through People will provide an incremental benefit
- Is this a solution in search of a problem?