

36-inch Integrity Assessment

Resources and engineering response provide operator with rapid mobilization

A major midstream gas company required a Stress Corrosion Cracking (SCC) integrity assessment in order to remain federally compliant. The project schedule was of critical importance due to the customer's demand date for product transmission. This schedule demanded that BlueFin couple engineering subject matter experts and management resources to deliver a work plan that would meet the customer's deadline.

PLAN OF EXECUTION

1. **Project Pre-Planning**
 - a. Multiple site surveys.
 - b. Stakeholder planning meetings.
 - c. Creation of technical procedures.
2. **Pipeline Filling**
 - a. Design of uptake system to meet Department of Environmental Quality (DEQ) water removal permit.
 - b. Filtration of test medium prior to filling the pipeline.
 - c. Utilization of appropriate back pressure to ensure column integrity.
3. **Hydrostatic Pressure Test**
 - a. 24 hour stabilization period.
 - b. Pre-planned, controlled pressurization and depressurization process.
 - c. Multiple data points to monitor pressure along each test section.
4. **Pipeline Dewatering**
 - a. Release of test medium into natural water body.
 - b. Utilization of carbon and particulate filtration to meet DEQ discharge permit.
 - c. Controlled release to maintain back pressure to prevent air lock.
 - d. Caliper tool run to identify internal pipeline geometric anomalies.
5. **Pipeline Drying**
 - a. Achieved dew point of -40°F and ¼ inch penetration.

TECHNICAL ACHIEVEMENTS & BENEFITS

- Multiple integrity tests with no ruptures.
- Identification and location of a hard to detect leak.
- Zero safety and environmental incidents.
- Successful caliper tool run.
- Successful integration with end user and general contractor management, consultants, and field personnel.

LOCATION

Virginia (US)

SPECIFICATIONS

Diameter: 36 inches
Length: 20.63 miles
Wall Thickness: 0.375 inches
Maximum Allowable Operating Pressure (MAOP): 1,440 psi
Differential Elevation: 330 ft

CHALLENGE

Regulatory re-assessment resulted in multiple pipeline integrity needs.

SOLUTION

- Limited accessibility
- High potential for air lock
- Strict environmental regulation
- High economic impact for an extended outage
- SIMOPS
- Neighboring energized pipelines & facilities