2nd QUARTERLY REPORT – PUBLIC PAGE
DTPH56-14-H-00002
"Full Scale Testing of Interactive Features for Improved Models"

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1.0 Results and Conclusions

Task 1 – Project Kickoff
This task is complete and was reported on in the first quarterly report.

Task 2: Material Selection, Acquisition, and Characterization
The project team held a meeting with PHMSA and the Technical Advisory Committee (TAC) on June 18, 2014 to present questions on Task 5 – Full Scale Testing of Dent and Gouge Defects:

- A 8" OD pipe containing a dent and gouge defect retrieved from service similar to some of the defects created in previous PRCI and DOT projects was proposed to be used in Task 5C.
- An analysis of dent and gouge defects created in PRCI, DOT and EPRG projects was proposed, that showed an area – intermediate dent and intermediate gouge – that was not covered until now. It was proposed to created realistic defects in that area.

Based upon feedback, GDF SUEZ chose the pipes for the following tasks:

- Task 5a "Full Scale Testing of Dent and Gouge Defects - Dent and Gouge Severity";
- Task 5c "Full Scale Testing of Dent and Gouge Defects - Dent and Gouge Defects Removed from Service";
- Task 6 "Stress Corrosion Cracking Colonies and SDO Modeling Coordination".

Pipe SCC-1:
- Chemical composition
- Tensile properties at room temperature in transverse and longitudinal directions
- Charpy impact values at room temperature in TL and LT directions
- Chemical composition was also performed for Pipe 7.

BMT has not yet received the necessary approval from PRCI for the usage of the 16 inch diameter ERW pipe, 0.28 inch wall thickness, Grade X-46, 1964 vintage for the dent full scale fatigue testing program. Additional pipe, 24 inch diameter, 0.32 inch wall thickness, Grade X-70, 1998 vintage has been identified. BMT is in discussion with the operator to obtain the pipe for full scale dent fatigue test program. BMT also held meetings with several pipeline operators to identify other sources of pipes that could be utilized for the current program.

Task 5a: Dent and Gouge Severity
For Task 5a, GDF SUEZ prepared three vessels by welding end caps to pipe segments.

Task 5b: Interaction between Defects
There is no work to report during this reporting period on Task 5b.

Task 5c: Dent and Gouge Defects Removed from Service
The Pipe 7 material characterization by GDF SUEZ is in progress.

Task 6: SCC Colonies and SDO Modeling Coordination
For Task 6, GDF SUEZ validated the ability to electrically monitor the growth of the main crack on the selected pipe SCC-1. A vessel was created by welding end caps to this pipe segment.

Task 8: Dissemination of Results
The project team completed the formation of the Technical Advisory Committee (TAC). The TAC consists of the following members who are invited to participate in the team's Monthly Status Update meetings.

The DOT DTPH56-14-H-00002 project was presented by GDF SUEZ and BMT Fleet to the PRCI members during the last pipeline Technical Committees meeting held 21st to 23rd of May 2014 in Banff, Canada. The way this project complements past and current PRCI projects was particularly outlined, in order to show that resources are carefully managed and work is carefully planned.

The project team held a TAC meeting on June 18, 2014 to present questions on Task 5 –Full Scale Testing of Dent and Gouge Defects as discussed above under Task 2.

Task 9: Project Management and Reporting
The project team held regular teleconference meetings to track performance, schedule and budget. They also presented and participated in the Research Project Peer Review on May 22, 2014.

2.0 Plans for Future Activity

Task 2: Material Selection, Acquisition, and Characterization
GDF SUEZ will complete the characterizations for selected materials for the following:

- A vintage 24 inch diameter pipe provided by an US transmission pipeline operator for Task 5.
- Two (2) 18 inch diameter pipe sections containing SCC colonies for Task 6.
- One (1) 16 inch diameter pipe that will be used for Task 4.

BMT plans to finalize the selection of their pipe and begin characterization.

Task 3: Baseline Existing Features
GDF SUEZ will continue searching for pipe sections retrieved from service containing in-service created dents and gouges.

Task 5a: Dent and Gouge Severity
GDF SUEZ will create defects on the pipe in Task 5a.

Task 6: SCC Colonies and SDO Modeling Coordination
For this task, GDF SUEZ CRIGEN's Direct Current Potential Drop device will be tested in order to optimize distance between current feeding and measurement points. In addition, a vessel will be built with the two 18 inch diameter pipe sections, and electrochemical cells will be adapted to fit the pipe sections with flat areas