

PUBLIC PAGE

COMPREHENSIVE STUDY TO UNDERSTAND LONGITUDINAL ERW SEAM FAILURES

Submitted by Battelle
in collaboration with
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The objective of the proposed project is to assist the PHMSA in favorably closing NTSB Recommendation P-09-1 arising from the Carmichael MS pipeline rupture involving an ERW seam, which directed that the PHMSA conduct a comprehensive study of ERW pipe properties and the means to assure that they do not fail in service. The work is anticipated to validate that periodic use of the current ERW seam integrity assessment methods (hydrostatic testing and in-line inspection using a crack-detection tool) are the best means to prevent ERW seam ruptures. The work will address the characteristics of ERW seams that make them susceptible to failure, and it will identify the factors the pipeline operators must consider in order to assure that their ERW pipelines are safe.

Phase I of this project has produced fifteen task reports shown in Table 1 which are available on the DOT website <https://primis.phmsa.dot.gov/matrix/PrjHome.rdm?prj=390>. Phase II of this project has been initiated, but has not produced any reportable milestones to date.

Task	Author	Title	Status
1.2	K.M. Kolovich & J. F. Kiefner	Effectiveness of Hydrostatic Testing for Assessing the Integrity of ERW and Flash-weld Pipe Seams	Posted
1.3	J. F. Kiefner, K.M. Kolovich, et.al.	Track Record of In-Line Inspection as a Means of ERW Seam Integrity Assessment	Posted
1.4	J. F. Kiefner & K.M. Kolovich	ERW and Flash Weld Seam Failures	Posted
1.4	B. N. Leis & J. B. Nestleroth	Battelle's Experience with ERW and Flash Weld Seam Failures: Causes and Implications	Posted
2.3	Greg T. Quickel,	Characterization of the Toughness of Pipe Containing ERW Seam Defects	Posted
2.4	J. F. Kiefner & K.M. Kolovich B. N. Leis	Models for Predicting Failure Stress Levels for Defects Affecting ERW and Flash-Welded Seams / Addendum on PAFFC	Posted
2.5	J. F. Kiefner & K. M. Kolovich	Predicting Times to Failure for ERW Seam Defects that Grow by Pressure-Cycle-Induced Fatigue	Posted
2.6	B. Leis	Characterizing Aspects of Failure in ERW Line Pipe	Posted
3.1	S. Brossia	Selective Seam Weld Corrosion Literature Review	Posted
3.2	S. Brossia	Selective Seam Weld Corrosion Test Method	Posted
3.3	S. Brossia	Selective Seam Weld Corrosion Cathodic Protection Effectiveness Evaluation	Posted
3.4	S. Brossia	Input to Report – Implications for Recommendation P-09-1	Posted
4.1	B. Leis	Compare/Contrast Inspection vs Burst Outcomes	Posted
4.2	B. Leis	Time-Trending and Like-Similar Analysis for ERW-Seam Failures	Posted
4.5	Multiple Authors	Final Summary Report and Recommendations for the Comprehensive Study to Understand Longitudinal ERW Seam Failures – Phase One	Posted