

FOR FURTHER INFORMATION CONTACT:

Gopala (Krishna) Vinjamuri, Agreement Officer's Technical Representative, RSPA/OPS, by phone at (202) 366-4503; by fax at (202) 366-4566; or by e-mail at gopala.vinjamuri@rspa.dot.gov. You may also contact Dr. Albert Teitsma, Program Manager, Gas Technology Institute, by telephone at (847) 768-0974, by fax at (847) 768-0501, or by e-mail at albert.teitsma@gastechnology.org.

Background

This research program began in 1996. The first phase of the MFL technology research (DTRS56-96-C-0010, *In-Line Inspection Technologies for Mechanical Damage and Stress Corrosion Cracking (SCC) in Pipelines*, was fully funded by RSPA/OPS. Battelle worked with its research partners, SwRI and Iowa State University, to complete this phase of the research. GRI provided technical and project management assistance.

Magnetic flux leakage (MFL) is the most commonly used in-line inspection (ILI) technology for detecting pipe wall corrosion. Until about 1996, the technology was not capable of reliably detecting mechanical damage (gouges and scratches) or long, thin axial defects, both of which are common causes of pipeline failures.

Battelle designed an intelligent MFL in-line inspection tool ("smart pig") and was responsible for data acquisition and analysis using GRI's Pipeline Safety Simulation Facility (PSF) in Ohio. Natural and fabricated pipe samples with corrosion and other defects were used to evaluate the capabilities of the Battelle device. SwRI conducted mechanical testing and studied the feasibility of non-linear harmonics (NLH) for in-line inspection applications. The Iowa State University researchers attempted to develop a neural network analysis process to analyze MFL signals and determine by trained pattern recognition the extent of metallurgical damage. The 2000 final report on this part of research is available on the OPS Web site, at primis.rspa.dot.gov—click on > Pipeline Safety Research and Development > Recent Projects > R&D Database > Inline Inspection/Pigging and, finally, > In-Line Inspection Technologies for Mechanical Damage and SCC in Pipelines.

To continue this research, RSPA/OPS co-funded an additional \$1,180,000 for a 3-year project of advanced research and development. GTI was the program manager, and Battelle and SwRI were the research partners. The project, DTRS656-00-H-0004, *Better Understanding of Mechanical Damage*, focused on designing a smart pig

capable of circumferential (transverse) magnetization for detecting longitudinally oriented cracks, crack-like defects, and mechanical damage defects, particularly gouges. The project scope included the determination of criteria for assessing the relative severity of detected defects and advanced research in NLH tool design and analysis. As the research progressed, additional analyses and testing were identified that added value to the project.

The tentative agenda for the meeting is as follows.

Welcome—Stacey Gerard

Introduction, History and

Achievements—Gopala Vinjamuri

Fit with IMP Rule; Effective

Technologies—Keith Leewis

Statistics; Progress in Safety; SOA—

Harvey Haines

Mechanical Damage R&D—Harvey

Haines

Break

Project Organization and Overview—

Albert Teitsma

Battelle R&D MFL for Mechanical

Damage—Bruce Nestleroth

SwRI R&D for Nonlinear Harmonics—Al

Crouch

Technology Transfer—Alan Dean

Questions and Answers

Lunch

Mechanical Damage Detection/

Characterization—Graham Chell,

Bruce Nestleroth

Implementation of MFL Decoupling—

Alan Dean

Final Questions and Answers

Conclusions—Gopala Vinjamuri

Issued in Washington, DC, on October 3, 2003.

James K. O'Steen,

Deputy Associate Administrator for Pipeline Safety.

[FR Doc. 03-25521 Filed 10-7-03; 8:45 am]

BILLING CODE 4910-60-P

DEPARTMENT OF TRANSPORTATION**Research and Special Programs Administration****Pipeline Safety: Stress Corrosion Cracking (SCC) Threat to Gas and Hazardous Liquid Pipelines**

AGENCY: Research and Special Programs Administration (RSPA), DOT.

ACTION: Notice; issuance of advisory bulletin.

SUMMARY: RSPA's Office of Pipeline Safety (OPS) is issuing this advisory notice to owners and operators of gas and hazardous liquid pipelines to consider the threat from stress corrosion

cracking (SCC) when developing and implementing Integrity Management Plans. Operators should determine whether their pipelines are susceptible to SCC and assess the impact of SCC on pipeline integrity. Based on this evaluation, an operator should prioritize application of additional in-line inspection and hydrostatic testing and take actions to remediate problem areas.

FOR FURTHER INFORMATION CONTACT:

Mike Israni, (202) 366-4571; or by e-mail, mike.israni@rspa.dot.gov. This document can be viewed at the OPS home page at <http://ops.dot.gov>. General information about the RSPA/OPS programs may be obtained by accessing RSPA's home page at <http://rspa.dot.gov>.

I. Advisory Bulletin (ADB-03-05)

To: Owners and Operators of Gas and Hazardous Liquid Pipeline Systems.

Subject: Stress Corrosion Cracking (SCC) Threat to Gas and Hazardous Liquid Pipelines.

Purpose: To advise owners and operators of natural gas and hazardous liquid pipeline systems to consider stress corrosion cracking as a possible safety risk on their pipeline systems and to include SCC assessment and remediation measures in their Integrity Management Plans.

Advisory: Each owner and operator of a gas or hazardous liquid pipeline system should assess the risk of stress corrosion cracking (SCC). Pipeline owners and operators should evaluate their systems for the presence of risk factors for high pH (9–11) SCC or near-neutral pH (6–8) SCC. Criteria for high pH SCC can be found in Appendix A3.3 of standard ASME B31.8S. If conditions for SCC are present, a written inspection, examination, and evaluation plan should be prepared and appropriate action should be taken in accordance with Appendix A3.4 of standard ASME B31.8S. RSPA/OPS will soon publish a final rule on the integrity management program for gas transmission pipelines in high consequence areas that incorporates requirements for addressing SCC threats by referencing Appendix A3 of standard ASME B31.8S. Although criteria and mitigation plans for near-neutral pH (6–8) SCC are not addressed in this standard, NACE International (NACE) is currently developing a standard on Direct Assessment of Stress Corrosion Cracking. Also, NACE will soon issue a technical committee report, *External Stress Corrosion Cracking of Underground Pipelines*, to provide information on SCC for hazardous liquid pipelines.

The integrity management rules for both large (65 FR 75378; December 1, 2000) and small (66 FR 2136; January 16, 2002) hazardous liquid pipelines in high consequence areas did not specifically address the SCC threat. By this Advisory Bulletin, we are reminding owners and operators of both gas and hazardous liquid pipeline systems to consider the stress corrosion cracking threat as a possible risk factor when developing and implementing Integrity Management Plans. All owners and operators of pipeline systems, whether or not their pipeline systems are subject to the Integrity Management Plan rules, should determine whether their pipeline system is susceptible to SCC and assess the impact of SCC on pipeline integrity. Based on this evaluation an operator should prioritize application of internal inspection, hydrostatic testing, or other forms of integrity verification.

SUPPLEMENTARY INFORMATION:

II. Background

Recent incidents throughout North America and the world, including Australia, Russia, Saudi Arabia, and South America, have highlighted the threats to pipelines from SCC failures. In the United States, SCC failures on hazardous liquid pipelines have been very rare when compared with SCC occurrences on natural gas pipelines. However, three SCC-caused failures of hazardous liquid pipelines have occurred in 2003. Another hazardous liquid pipeline operator has reported finding significant SCC defects.

SCC is the cracking induced from the combined influence of tensile stress and a corrosive medium. The impact of SCC on a material usually falls between dry cracking and the fatigue threshold of that material. The required tensile stresses may result from directly applied stresses (pressure and overburden) or in the form of residual stresses (fabrication and construction). The most effective means of preventing SCC are to: (1) properly design the pipeline using appropriate materials; (2) reduce pipeline stresses; and (3) remove critical environmental electrolytes, such as hydroxides, chlorides, and oxygen.

Most pipelines are buried. No matter how well these pipelines are designed, constructed, and protected, once in place they are subjected to environmental abuse, external damage, coating disbondment, inherent mill defects, soil movements/instability, and third party damage. SCC develops in pipelines due to a combination of environmental, stress (absolute hoop and/or tensile, fluctuating stress) and material (steel type, amount of

inclusions, surface roughness) factors. Although the age of a pipeline is not indicative of the presence of SCC, it is a factor to consider when assessing pipelines that are subject to conditions that may cause crack growth.

Two types of SCC are found on pipelines: high pH (9 to 11) SCC and near-neutral pH (6 to 8) SCC. Characteristics of both forms of SCC as summarized by experts are as follows:

- Cracks usually oriented in longitudinal direction (cracks may exist at other orientations, depending on the direction of tensile stress).

- Occurrence in clusters consisting of several cracks to hundreds of cracks.

- Cracks tend to interlink to form long shallow flaws (cracks may grow to cause ruptures).

- Fracture faces are covered with magnetite and carbonate films.

High pH SCC was originally noted in gas transmission pipelines. It is typically found within 20 miles downstream of the compressor station. High pH SCC usually occurs in a relatively narrow cathodic potential range (–600 to –750 mV Cu/CuSO₄) in the presence of a carbonate/bicarbonate environment in a pH window from 9 to 11. Temperatures greater than 100° F are necessary for high pH SCC susceptibility. Other characteristics of high pH SCC according to experts are as follows:

- Cracks are narrow and inter-granular and, have extensive crack branching.

- Cracks are generally not associated with long seams or other metallurgical features.

- Cracks are commonly found on the bottom half of a pipe.

- Cracks are commonly associated with coal tar and asphalt coatings.

For other details on high pH SCC please refer to Appendix A3 of standard ASME B31.8S.

A Near-neutral pH SCC was initially noted in Canada and has been observed by operators in the United States. The environment primarily responsible for near-neutral pH SCC is groundwater containing dissolved CO₂. The CO₂ originates from the decay of organic matter. Cracking is exacerbated by the presence of sulfate reducing bacteria. This primarily occurs due to disbonded coatings, which normally prevent the cathodic current from reaching the pipe surface. There is a corrosion condition below the disbonded coating that results in an environment with a pH of between 6 and 8. Other characteristics of near-neutral pH SCC according to experts are as follows:

- Cracks are wide (compared with high pH SCC) and trans-granular and have limited crack branching.

- Cracks are frequently associated with long seams and other metallurgical features (dents, mechanical damage).

- Cracks are commonly associated with tape coatings.

Pipeline operators know the pipeline metallurgy, coating type, and operating pressure of each pipeline. The only remaining variable in determining the likelihood of SCC is soil type. RSPA/OPS has previously directed certain pipeline operators to evaluate and establish the extent of SCC susceptibility, utilize over the ditch coating surveys to identify locations of holidays (uncoated spots) and match them with high stress levels (60% or greater of specified minimum yield strength), and match the areas with high temperature locations. The areas where all factors are present are then excavated and evaluated.

If a pipeline is susceptible to SCC, pipeline operators are required to quantify the life cycle of the pipeline by conducting fracture mechanic calculations to estimate where in the system an SCC rupture might occur. Appropriate in-line inspection technologies can help to identify SCC in a pipeline. If the pipeline cannot accommodate internal inspection tools, an appropriately designed hydrostatic test program can be effective in exposing SCC. If excavations of suspected SCC locations do not reveal SCC, RSPA/OPS recommends continuous monitoring for SCC as part of an operator's integrity management program for corrosion.

Because of the randomness of SCC failures, RSPA/OPS has, in the past, often ordered operators to reduce operating pressure by 20% of the prefailure pressure to add a factor of safety and allow the operator to continue service. This protects the public and environment from other SCC failures, even if there is another crack on the pipeline of the same size. Based on technical studies, RSPA/OPS has often required the pipeline operator to perform a spike hydrostatic pressure test to expose other cracks and ensure a safe return to full operating pressure. The pipeline operator can then commence a rigorous SCC management program that may include in-line inspection, recoating the pipeline, or even replacing sections of pipe where SCC is present.

By the end of 2003, RSPA/OPS will invite scholars and consultants to a public meeting to discuss research and technologies that can effectively identify, assess, and manage SCC.

Issued in Washington, DC, on October 1, 2003.

Stacey L. Gerard,

Associate Administrator for Pipeline Safety.

[FR Doc. 03-25421 Filed 10-7-03; 8:45 am]

BILLING CODE 4910-60-P

DEPARTMENT OF TRANSPORTATION

Surface Transportation Board

Release of Waybill Data

The Surface Transportation Board has received a request from the Association of American Railroads (WB463-6, September 10, 2003) for permission to use certain data from the Board's Carload Waybill Samples. A copy of this request may be obtained from the Office of Economics, Environmental Analysis, and Administration.

The waybill sample contains confidential railroad and shipper data; therefore, if any parties object to these requests, they should file their objections with the Director of the Board's Office of Economics, Environmental Analysis, and Administration within 14 calendar days of the date of this notice. The rules for release of waybill data are codified at 49 CFR 1244.9.

Contact: Mac Frampton, (202) 565-1541.

Vernon A. Williams,

Secretary.

[FR Doc. 03-25505 Filed 10-7-03; 8:45 am]

BILLING CODE 4915-00-P

DEPARTMENT OF TRANSPORTATION

Surface Transportation Board

[STB Finance Docket No. 34402]

Iowa Northern Railway Company—Operation Exemption—Rail Lines of D&W Railroad, Inc.

Iowa Northern Railway Company (INAR), a Class III rail carrier, has filed a verified notice of exemption under 49 CFR 1150.41 to operate approximately 51.95 miles of rail line, including incidental trackage rights, known as the Waterloo Industrial Lead, pursuant to an operating agreement with D&W Railroad, Inc. (D&W). The lines to be operated are located in Black Hawk, Buchanan and Fayette Counties, IA, as follows: (1) Between milepost 332.0 at

Dewar, IA, and milepost 354.3 at Oelwein, IA; (2) between milepost 245.58 and milepost 245.0 at Oelwein; (3) .32 miles of wye track at Oelwein; (4) 23 miles of yard track at Oelwein; and (5) incidental trackage rights over Union Pacific Railroad Company's track between milepost 332.0 at Dewar and milepost 326.2 at Linden Street, Waterloo, IA. INAR certifies that its projected revenues as a result of this transaction will not exceed those that would qualify it as a Class III rail carrier.

INAR reported that the parties intend to consummate the transaction on or soon after September 26, 2003.

This transaction is related to a concurrently filed verified notice of exemption in STB Finance Docket No. 34401, *D&W Railroad, Inc.—Acquisition Exemption—Rail Lines of Union Pacific Railroad Company*, wherein D&W seeks to acquire the above-described rail lines.

If the notice contains false or misleading information, the exemption is void *ab initio*. Petitions to revoke the exemption under 49 U.S.C. 10502(d) may be filed at any time. The filing of a petition to revoke will not automatically stay the transaction.

An original and 10 copies of all pleadings, referring to STB Finance Docket No. 34402, must be filed with the Surface Transportation Board, 1925 K Street, NW., Washington, DC 20423-0001. In addition, one copy of each pleading must be served on Thomas F. McFarland, 208 South LaSalle Street, Suite 1890, Chicago, IL 60604-1112.

Board decisions and notices are available on our Web site at <http://www.stb.dot.gov>.

Decided: October 1, 2003.

By the Board, David M. Konschnik,
Director, Office of Proceedings.

Vernon A. Williams,

Secretary.

[FR Doc. 03-25503 Filed 10-7-03; 8:45 am]

BILLING CODE 4915-00-P

DEPARTMENT OF TRANSPORTATION

Surface Transportation Board

[STB Finance Docket No. 34401]

D&W Railroad, Inc.—Acquisition Exemption—Rail Lines of Union Pacific Railroad Company

D&W Railroad, Inc. (D&W), a noncarrier, has filed a verified notice of

exemption under 49 CFR 1150.31 to acquire approximately 51.95 miles of rail line, including incidental trackage rights, known as the Waterloo Industrial Lead, from the Union Pacific Railroad Company (UP). The lines to be acquired are located in Black Hawk, Buchanan and Fayette Counties, IA, as follows: (1) between milepost 332.0 at Dewar, IA, and milepost 354.3 at Oelwein, IA; (2) between milepost 245.58 and milepost 245.0 at Oelwein; (3) .32 miles of wye track at Oelwein; (4) 23 miles of yard track at Oelwein; and (5) incidental trackage rights over UP's track between milepost 332.0 at Dewar and milepost 326.2 at Linden Street, Waterloo, IA. D&W certifies that its projected revenues as a result of this transaction will not exceed those that would qualify it as a Class III rail carrier.

D&E reported that the parties intend to consummate the transaction on or soon after September 26, 2003.

This transaction is related to a concurrently filed verified notice of exemption in STB Finance Docket No. 34402, *Iowa Northern Railway Company—Operation Exemption—Rail Lines of D&W Railroad, Inc.*, wherein Iowa Northern Railway Company seeks to operate the rail lines being acquired by D&W here.

If the notice contains false or misleading information, the exemption is void *ab initio*. Petitions to revoke the exemption under 49 U.S.C. 10502(d) may be filed at any time. The filing of a petition to revoke will not automatically stay the transaction.

An original and 10 copies of all pleadings, referring to STB Finance Docket No. 34401, must be filed with the Surface Transportation Board, 1925 K Street, NW., Washington, DC 20423-0001. In addition, one copy of each pleading must be served on Thomas F. McFarland, 208 South LaSalle Street, Suite 1890, Chicago, IL 60604-1112.

Board decisions and notices are available on our Web site at <http://www.stb.dot.gov>.

Decided: October 1, 2003.

By the Board, David M. Konschnik,
Director, Office of Proceedings.

Vernon A. Williams,

Secretary.

[FR Doc. 03-25504 Filed 10-7-03; 8:45 am]

BILLING CODE 4915-00-P