

Pipeline Group Factual Report

ATTACHMENT 22

Dixie IMP Plan Changes

**Carmichael, Mississippi
DCA 08 MP 001**

Dixie Pipeline C O M P A N Y

June 20, 2008

National Transportation Safety Board (NTSB)
Office of Railroad, Pipeline and Hazardous Materials Investigations
490 L'Enfant Plaza, SW
Washington, D.C. 20594

Attn.: Mr. Rod Dyck
Investigator-In-Charge

Re: NTSB Accident Investigation # DCA-08-MP-001 (Carmichael, MS)
Dixie Pipeline Company (Dixie)
November 1, 2007 accident on 12" line near Carmichael, Mississippi

Dear Mr. Dyck,

As you requested, the following is in response to several questions that Cliff Zimmerman (NTSB) raised in a phone conversation with Buford Barr (Dixie) in regards to the Dixie 12":

1. What risk model was in place at the time that the 2005 UT ILI tool run was performed on the Hattiesburg to Demopolis segment of the Dixie 12" and how has the risk model progressed into the current risk model in place today"?
 - a. The 2005 UT ILI tool run on the Hattiesburg to Demopolis segment of the Dixie 12" was successfully completed on August 4, 2005.
 1. On May 31, 2005, Dixie adopted a new IMP and Risk Model. Attached is Article 9 – Risk Analysis Factors, Risk Assessment and Risk Ranking Processes from the Dixie Pipeline Company Integrity Management Plan. The Risk Summary spreadsheet for this risk model that was in effect on the date of the 2005 UT ILI tool is also attached.
 2. On January 3, 2006, the risk model was updated and revised. During a review of Dixie's IMP and Risk Model, an error was discovered in the Nature weighting factor so corrections were made to the calculations and a revision to all of the applicable documentation. No other changes were made in this revision. The Risk Summary 2 spreadsheet dated January 3, 2006 is attached.
 3. On August 4, 2006, the Dixie IMP was revised to reflect Enterprise's template. The majority of the 'Risk Analysis Factors, Risk Assessment and Risk Ranking Processes' was incorporated into IMP SEC-5-01: Risk Analysis Procedure which is attached. Some editing changes were made to the text (i.e. procedure substituted for article, removal of

- references to old forms, removal of the last two paragraphs on page 39, etc.) No portion of the Dixie Risk Model that calculates the risk score (the pipeline data, algorithm, or risk factors) was changed.
4. On December 11, 2007, the Dixie IMP was incorporated into a common 195 IMP covering all operated and managed assets. Sec-5-01: Risk Analysis Procedure was incorporated in its entirety into IMP-DP2-03: Dixie Pipeline's Risk Analysis Procedure (attached). The Dixie logo was removed, the procedure title and document number were changed. No other changes were made to the document. No portion of the Dixie Risk Model that calculates the risk score (the pipeline data, algorithm, or risk factors) was changed.
 5. The current Risk Model for Hattiesburg to Demopolis pipeline segment is attached. The Risk Model for the entire Dixie Pipeline System is contained in two large binders and a copy can be sent if requested.
2. What was the name of the company that was the Managing Partner of Dixie Pipeline Company prior to Enterprise?
 - a. According to our copy of their contractual agreement with Dixie Pipeline Company, "Phillips Pipe Line Company" is stated as the managing company for Dixie Pipeline Company prior to Enterprise assuming that role on July 1, 2005.
 3. Provide a copy of the pressure cycle analysis that GE conducted for the Dixie Pipeline ECA report, specifically the chart with the pressure cycles and the explanation of the Rainflow model.
 - a. The pressure cycle analysis performed by GE-P11 was included in the final ECA Report for the 2005 UT ILI run from Hattiesburg to Demopolis previously submitted on February 7, 2008 on a CD sent via Fedex. The following applicable pages were extracted and are attached.
 1. Section 7 on page 18 and 19 titled 'Remaining Life of Sub-Critical Indications' provides information about the remaining life assessment method based on Paris-Erdogan fatigue growth mechanism and Dixie's discharge pressure data used.
 2. Figure 11, 'Pressure Blocks comparison: Hattiesburg and Carmichael' on page 57 shows the chart with the pressure cycles.
 3. Section 13.3: Rainflow Counting Method in the Appendix on pages 64-66 explains the details of the rainflow model.

If you have any comments or questions, please contact us at your convenience.

Sincerely,


H. Buford Barr
Manager – Pipeline Integrity

Dixie Pipeline C O M P A N Y

April 22, 2008

Mr. Cliff Zimmerman
Office of Railroad, Pipeline, and Hazardous Materials Safety
National Transportation Safety Board ("NTSB")
490 L'Enfant Plaza, SW
Washington, DC 20594

Re: NTSB Information Request letter dated April 11, 2008 (the "Request")
Dixie Pipeline Company
Release of propane from 12" Dixie Pipeline Company line near Carmichael, Mississippi
on November 1, 2007

Dear Mr. Zimmerman:

The following information is being provided in response to your Request regarding the release of propane from the 12" Dixie Pipeline Company ("Dixie") line near Carmichael, Mississippi on November 1, 2007.

NTSB Inquiry 1

With regard to longitudinal seam weld integrity issues, why did Dixie Pipeline Company choose in-line inspection over hydrostatic pressure testing to meet the IMP assessment requirements for Hattiesburg to Demopolis for 2005?

Dixie Response

In late 2004 when the assessment method for the 2005 assessment schedule was being determined, the procedure for performing the assessment method selection was as outlined in the previously submitted Dixie procedure Section 6 – Baseline Assessment Plan. The Dixie procedure Section 6 – Baseline Assessment Plan states the following in regards to the assessment method selection process for seam weld integrity:

If pipe segments contain electric resistance welded (ERW) line pipe or other pipe of questionable seam integrity, an evaluation to determine if the pipe is susceptible to longitudinal seam failure due to fatigue is required. The evaluation process is summarized in Figure 6.1 below. If a special seam integrity assessment is warranted, in-line inspection of the pipeline segment using Transverse (transaxial) Magnetic Flux Leakage (MFL) or ultrasonic shear wave technology or hydrostatic testing shall be done.

The noted Dixie procedure does not require any additional analysis or documentation of the assessment method selection process for longitudinal seam weld integrity.

Based on the review of the above noted information, Dixie determined that the assessment method options available for assessing the Hattiesburg to Demopolis segment were UT, TFI/AFD, or Hydrostatic test. The selected assessment method for the 2005 assessment of the Hattiesburg to Demopolis pipeline segment was a UT ILI.

NTSB Inquiry 2

What were the differences about this section compared to other 12-inch diameter pipeline sections where a crack tool in-line inspection method was not selected?

Dixie Response

One apparent difference between the Hattiesburg to Demopolis pipeline segment and the other 12-inch diameter segments on the Dixie system is that the Hattiesburg to Demopolis segment was the only 12-inch diameter segment on the Dixie system that was scheduled to be assessed in 2005.

NTSB Inquiry 3

Why did Dixie Pipeline Company select hydrostatic pressure testing over in-line inspection to meet the IMP assessment requirements for Grangeville to Hattiesburg for 2007?

Dixie Response

In late 2006 when the assessment method for the 2007 assessment schedule was being determined, the procedure for performing the assessment method selection was as outlined in the previously submitted Dixie procedure IMP-SEC2-01, Integrity Assessment Method Selection Procedure. The Dixie procedure IMP-SEC2-01, Integrity Assessment Method Selection Procedure indicates that the following may be considered in determining the appropriate assessment method for a segment:

- Line ID(s) with beginning and ending station
- Coating type of the segment
- Coating condition for the segment
- Quality of cathodic protection (CP) for each segment
- Year of original construction
- Does the normal operating temperature of the segment exceed 100°F?
- The pipe diameter, yield strength, wall thickness and seam type for the segment
- The number of known in-service seam ruptures and hydrostatic test related seam ruptures
- Has this segment been tested for cracks? If yes, have crack indications been found on this line segment?
- The year and pressure of most recent hydrostatic test for the line segment, if applicable.
- The susceptibility of the segment, as identified by the Pipeline Integrity Engineer, to the threats of Longitudinal Seam Failure, cracking mechanisms such as Stress Corrosion Cracking (SCC), Corrosion, and Third Party Damage.
- Effectiveness of the assessment method(s)
- Availability of internal inspection tools or other tools capable of detecting the identified threats.

Cliff Zimmerman
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- Piggability of the line. Taking into account bend radius, assessment segment length, trap configuration, and product.
- Cost effectiveness of the assessment method.
- Schedule for completion of the integrity assessment.
- Need for ID/OD discriminator
- Re-inspection recommendations.
- The MOP of the segment.

Based on the review of the above noted information, Dixie determined the assessment method options available for assessing the Grangeville to Hattiesburg segment were UT, TFI/AFD, or Hydrostatic test. As noted in the previously submitted assessment method selection spreadsheet for the 2007 assessment of the Grangeville to Hattiesburg pipeline segment, hydrotest was selected as the assessment method.

Dixie appreciates having the opportunity to respond to the Request and looks forward to continuing to work with the NTSB to assure the safe operation of our pipelines. Please let me know if you have any questions.

Sincerely yours,



H. Buford Barr
Manager, Pipeline Integrity

Enclosures