

08-22-08A11:38 RCVD



**Refining and Marketing Company**

Pipeline, Terminal, & Trucking  
300 Concord Plaza  
San Antonio, TX 78216-6999

August 21, 2008

Chris Hoidal  
Director, Western Region  
Pipeline and Hazardous Materials Safety Administration  
12300 W. Dakota Ave., Suite 100  
Lakewood, CO 80228

Dear Mr. Hoidal:

**SUBJECT: RESPONSE TO CPF NO. 5-2008-0006M – NOTICE OF AMENDMENT**

This letter is in response to the above-referenced NOA, dated March 13, 2008. The finding from the NOA is repeated in shaded italics, and Tesoro Refining and Marketing Co.'s (Tesoro's) response follows. All referenced documents are attached.

Tesoro has completed a revision of its Integrity Management Program. This program, which previously covered only hazardous liquid pipelines, now includes both gas and hazardous liquid pipelines. The information and procedures for integrity management of Tesoro's only gas pipeline, the subject of this Notice of Amendment, are now interwoven into the newest revision of Tesoro's Integrity Management Program

**1 – HCA Identification**

**1A: 192.905(a)**

*Tesoro's High Consequence Area (HCA) identification process does not document the method used to identify HCAs.*

Tesoro's revised Procedure IM001, Volume Release and HCA Impact, describes the different methods used to identify HCAs. Method 2 is used for this determination; this is identified on page 2-3 of the Tesoro Integrity Management Program.

**1B: 192.903**

*The calculations performed by Tesoro's consultant, SECOR, to determine the potential impact radius (PIR) appear to use a value for the pipe Diameter of 10.52 inches, while the Tesoro IMP states that the pipe outside diameter is 10.75 inches. This results in a lower PIR.*

Tesoro calculated the PIR based on the nominal diameter of the pipe, 10-inches, as discussed in the description of the variable "D" in FAQ 16 (part of which is included below).

*FAQ 16: Determining if Pipeline is in an HCA*

*Question: How will an operator determine if a pipeline is in an HCA?*

*Answer: The potential impact radius must be calculated along the pipeline using the following formula:*

$$PIR = .69 * (p * d^2)^{0.5}$$

*Where:*

*PIR = Potential Impact Radius (in feet)*

*P = maximum allowable operating pressure (in pounds per square inch)*

*D= nominal pipeline diameter (in inches)*

*0.69 is a constant applicable to natural gas (constants for other gases must be determined in accordance with Section 3.2 of ASME B31.8S-2001)*

*...*

**1C: 192.905(b)(1)**

*The Tesoro HCA identification results do not indicate whether high consequence areas that were identified include the area extending axially along the length of the pipeline from the outermost edge of the first potential impact circle to the outermost edge of the last contiguous potential impact circle.*

Tesoro has re-evaluated the pipeline's PIR; the entire pipeline is evaluated with a PIR of 253 feet that extends axially along the length of the pipeline, as demonstrated in Procedure IM001, Volume Release and HCA Impact.

### **1D: 192.905(a) and 192.905(b)(1) & (2)**

*The Tesoro HCA identification does not include a systematic identification of potential identified sites in the vicinity of the pipeline. The HCA identification did not include consideration of the "Coke Barn" facility as an identified site, even though the site occupancy may meet the criteria for an identified site.*

Tesoro has re-evaluated the HCA and now accounts for all buildings and the occupancy of the buildings. The pipeline, identified to be in a Class 3 area, is now designated as a 100% HCA segment due to the extended buffer and the counting of the identified sites. This is stated on page 2-4 of Tesoro's Integrity Management Program.

### **2: 192.917 Risk Assessment**

*The Tesoro IMP does not document the risk assessment process that will be used in future risk assessments. A risk assessment is needed to set priorities for integrity assessments and it is required to support evaluation of preventive and mitigative measures. Current documentation is from a Shell risk assessment process was last implemented in 2004. Potential errors were found in the risk scorecard evaluation that was part of the risk assessment at that time. IMP Section 3 does not indicate what risk assessment process will be conducted in the future.*

Tesoro's revised Procedure IM003, Risk Assessment, describes the risk assessment process that will be used in future risk assessments (the same process that is currently used for Tesoro's hazardous liquid pipelines). This risk assessment process, performed annually, uses an algorithm based on the risk scoring presented by Kent Muhlbauer (Pipeline Risk Management Manual). The data gathering process for the risk assessment analysis is described in Procedure IM002, Information Analysis.

### **3: 192.937 Reassessment Intervals**

*The assumed corrosion growth rate used to obtain the seven-year reassessment interval is not conservative. The corrosion growth analysis assumes a corrosion half-life of 39 years. This is not consistent with NACE defaults and predicts slower corrosion growth than would be obtained using these default figures. Tesoro does not offer a basis for making these more optimistic assumptions..*

Tesoro's revised Procedure IM010, Pipe Repairs, discusses appropriate techniques to address corrosion growth and reflects NACE processes.

#### **4: Preventive and Mitigative Measures**

##### **4A: 192.935(a)**

*The Tesoro IMP process for evaluation of preventive and mitigative measures is not defined adequately. A risk assessment was conducted in 2004, but this was performed using Shell Pipeline's approach that is not the approach that is intended to be used in the future. .*

Tesoro's Procedure IM011, Preventive and Mitigative Measures, defines the measures to implement on an HCA pipeline segment. This procedure defines the areas to review and mitigate should a concern or threat be identified. Tesoro's Procedure IM012, Leak Detection and EFRD Analysis, gives further guidance on determining the need for leak detection and EFRD.

##### **4B: 192.935(b)(1)**

*The Tesoro IMP does not require the preventive and mitigative evaluation to consider the alternatives specified in 192.935(a). It is not clear what alternatives were considered in the risk assessment completed in 2004.*

Tesoro's Procedure IM011, Preventive and Mitigative Measures, defines the measures to implement on an HCA pipeline segment and includes consideration of the alternatives specified in 192.935(a). A review of pipeline segments and preventive and mitigative activities for a covered segment in an HCA is conducted on an annual basis.

##### **4C: 192.935(a)**

*The Tesoro IMP does not document a systematic decision-making process to decide which measures are to be implemented, considering both the likelihood and consequences for pipeline failures.*

Tesoro utilizes Procedure IM003, Risk Assessment, to perform risk evaluations on covered pipeline segments and IM011, Preventive and Mitigative Measures, to enhance protection of a covered segment. The data generated from the assessment is then reviewed, in addition to other accumulated data for the covered pipeline segment, including, but not limited to, pipeline characteristics, operating history, environment, corrosion activities, leak detection, third-party activity, and threats for further preventive and mitigative actions. An action plan, as described in IM011, is developed to document the findings and, if necessary, provide recommended actions.

Should you have any questions or concerns regarding this letter or any other matters, please do not hesitate to me at 210-626-6465 or [bfrieh@tsocorp.com](mailto:bfrieh@tsocorp.com) .

Sincerely



Bernadette Frieh, P.E.  
Manager Environmental, Compliance, and Training

CC: Mike McCann

Attachments:

- Procedure IM001, Volume Release and HCA Impact
- Tesoro Integrity Management Program – Section 2
- Procedure IM003, Risk Assessment
- Procedure IM002, Information Analysis
- Procedure IM010, Pipe Repairs
- Procedure IM011, Preventive and Mitigative Measures
- Procedure IM012, Leak Detection and EFRD Analysis

# Integrity Management Plan

## Integrity Management Plan Overview

The *Integrity Management Plan* (IMP) uses Tesoro's regional operating and maintenance procedures together with data collection and integration to evaluate pipeline integrity on pipeline segments that could affect High Consequence Areas (HCAs). The results are analyzed through several techniques to quantify the amount of risk associated with identified integrity threats. From that analysis, the appropriate tool or tools are selected for integrity assessment (in-line inspection, hydrostatic test, or other technology). Prevention and mitigation measures are performed based on assessment results and analysis. Pipeline segment integrity is confirmed annually.

The following figure displays the IMP process graphically, and provides the name of contributing elements to each process step:

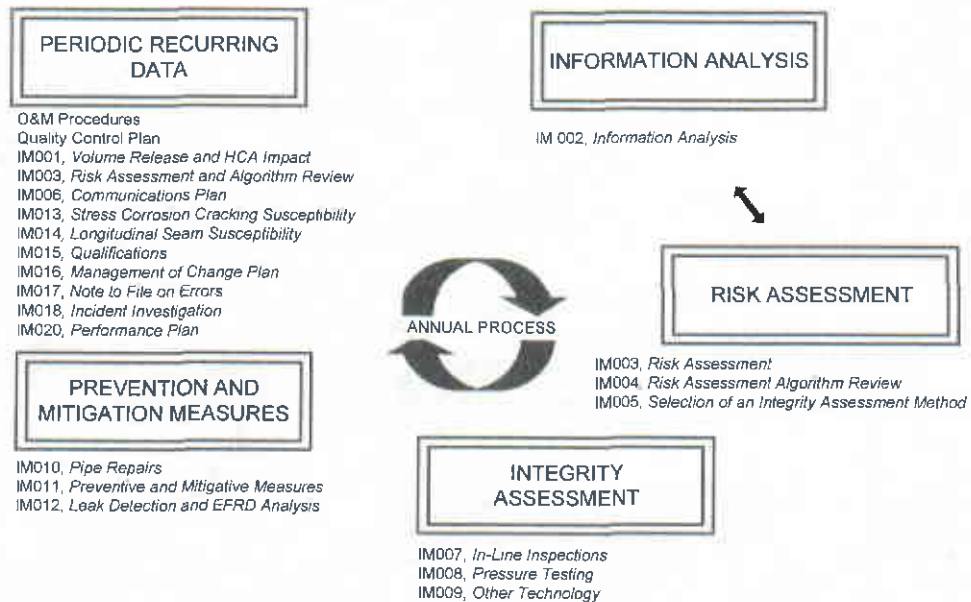


Figure 2: IMP Annual Process

Note: The "IM number" indicates the IM Program Procedure number.

The Gas IMP sections of this program are structured according to the Protocols which were issued by PHMSA in January 2006. The latest January 2008 Gas IMP Protocol revision is within the PT&T IMP files for guidance during operator audits.

The Liquid IMP sections of this program are structured according to the Protocols which were issued by PHMSA in January, 2003. These protocols are filed within the PT&T IMP files, to use as guidance during operator audits.

A detailed description of the process is located in the Integrity Procedure(s) referenced within the section.

Records produced due to implementation of the IMP are retained for the life of the system in the IM Program files.

## **Integrity Management Procedures**

Tesoro has designed the IM Program such that it can be readily implemented through the issuance and implementation of Integrity Procedures. These procedures ensure that required integrity tasks and functions are completed according to regulation, code, standard and best practice. These procedures include:

- IM001, *Volume Release and HCA Impact*
- IM002, *Information Analysis*
- IM003, *Risk Assessment*
- IM004, *Risk Assessment Algorithm Review*
- IM005, *Selection of an Integrity Assessment Method*
- IM006, *Communications Plan*
- IM007, *In-line Inspection*
- IM008, *Pressure Testing*
- IM009, *Other Pipeline Assessment Technology*
- IM010, *Pipe Repairs*
- IM011, *Preventive and Mitigative Measures*
- M012, *Leak Detection and EFRD Analysis*
- IM013, *Stress Corrosion Cracking and Susceptibility*
- IM014, *Longitudinal Seam Susceptibility*
- IM015, *Qualifications*
- IM016, *Management of Change*

- IM017, *Note to File on Errors*
- IM018, *Incident Investigation*
- IM020, *Performance Plan*

These IM Procedures are located within Appendix B.

## **1 Liquid Pipeline: Identification of High Consequence Area (HCA) Pipe Segments**

### **APPROACH**

Tesoro operates 348 miles of *49 CFR § 195* regulated pipeline. Of the 348 miles, 187 miles is classified as pipe segment that could affect an HCA based on the National Pipeline Mapping System (NPMS) dataset and HCA impact analysis.

The Rule defines timeline requirements for HCA Segment Identification based on the category type of the pipelines.

- Identification of all Category 1 pipeline must be completed by December 31, 2001.
- Identification of all Category 2 pipeline must be completed by November 18, 2003.

The results of previous HCA analyses including completion dates will be archived upon completion of a more recent analysis. Subsequent analyses will be maintained in the PT&T files.

Tesoro does not operate Highly Volatile Liquid (HVL) pipe segments, and therefore has not made allowances for HCA impact analysis on these types of systems.

The roles and responsibilities of everyone involved in the completion of this task are identified in the Quality Control Plan. This plan also ensures the quality and accuracy of the segment identification results.

Any revisions to the analysis results or the methodology requires following the procedures in the *Management of Change Procedure (see IM016)*.

The Communications Plan provides the procedures to incorporate segment identification results into other IM Program elements.

## **2 Gas Pipeline: Identification of High Consequence Area (HCA) Pipe Segments**

A pipeline segment that could affect a HCA falls under the requirements of The Rule. This performance based program satisfies the requirements within *49CFR192 Subpart O* (Pipeline Integrity Management in High Consequence Areas - Gas Transmission Pipelines).

This section addresses the identification of pipeline segments that could affect one or more HCAs. This includes all of the steps to perform the segment identification, including