NOTICE OF PROBABLE VIOLATION
PROPOSED CIVIL PENALTY
and
PROPOSED COMPLIANCE ORDER

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

March 8, 2010

Mr. Terry McGill
President
Enbridge Pipelines, L.L.C.
1100 Louisiana Street. Suite 3300
Houston, TX 77002

CPF 4-2010-5008

Dear Mr. McGill:

On September 21, 2009 through September 24, 2009, and December 7 through December 11, 2009, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA) inspected Enbridge Pipelines, L.L.C.'s (Enbridge) Cushing Terminal facility in Cushing, OK, pursuant to Chapter 601 of 49 United States Code.

As a result of the inspection, it appears that you have committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations. The items inspected and the probable violations are:

1. §195.432 Inspection of in-service breakout tanks.

(b) Each operator shall inspect the physical integrity of in-service atmospheric and low-pressure steel aboveground breakout tanks according to section 4 of API

Standard 653. However, if structural conditions prevent access to the tank bottom, the bottom integrity may be assessed according to a plan included in the operations and maintenance manual under §195.402(c)(3).

(d) The intervals of inspection specified by documents referenced in paragraphs (b) and (c) of this section begin on May 3, 1999, or on the operator's last recorded date of the inspection, whichever is earlier.

The interval for the in-service external visual inspection of a breakout tank that is subject to the requirements of 195.432(b) and API Standard 653, *Tank Inspection, Repair, Alteration, and Reconstruction* (API 653) is calculated in accordance with Section 6.3.2 of API 653. This inspection is called the "External Inspection" and must be conducted at least every 5 years.

The Enbridge Cushing Terminal was acquired by Enbridge in 2004. Enbridge received historical records from the previous owner of the facility. At the time of the inspection, all of the 89 tanks were in crude oil service, and had been placed in service from 1921 to 2007. Enbridge provided an excel spreadsheet to the inspectors titled "Tankage Summary – Cushing Terminal – September 23, 2009," at the time of inspection. Review of the table indicated that 20 tanks did not receive their External Inspection within the maximum 5 year inspection interval, as follows:

Tank	Nominal Capacity (bbl.)	Date Built	Roof Type	Shell Construction	Bottom Lining	API 653 External Previous	API 653 External Current	External Interval
3001	57000	1921	Internal	Riveted	Fiberglass	09/03/99	10/05/05	>5
3002	57000	1921	Internal	Riveted	Fiberglass	04/24/01	08/31/06	>5
3003	57000	1921	Internal	Riveted	Fiberglass	04/24/01	09/01/06	>5
3004	57000	1921	Internal	Riveted	Fiberglass	09/20/00	10/05/05	>5
3006	57000	1921	Internal	Riveted	Fiberglass	04/25/01	09/01/06	>5
3013	262000	1978	Internal	Welded	Fiberglass	04/26/01	09/11/06	>5
3330	78000	1946	External	Welded	Fiberglass	02/20/01	09/12/06	>5
3331	78000	1946	External	Welded	Epoxy	06/18/01	08/30/06	>5
1395	66000	1953	Internal	Welded	Gunite	03/14/03	12/16/08	>5
1015	84000	1926	External	Riveted	Fiberglass	03/14/03	12/22/08	>5
1024	81000	1922	Internal	Riveted	Fiberglass	03/14/03	12/15/08	>5
1025	85000	1925	External	Riveted	Fiberglass	03/14/03	12/18/08	>5
1027	80000	1925	External	Riveted	Fiberglass	03/14/03	12/23/08	>5
1034	84000	1927	External	Riveted	Concrete	03/14/00	12/23/08	>5
1035	84000	1927	Internal	Riveted	Fiberglass	03/14/00	12/08/05	>5
1153	128000	1947	External	Welded	Fiberglass	08/06/03	12/17/08	>5
1155	128000	1947	External	Welded	Fiberglass	03/13/00	08/05/05	>5
1156	128000	1947	External	Welded	Fiberglass	08/06/03	12/18/08	>5
1181	128000	1954	External	Welded	Fiberglass	04/26/01	08/28/06	>5
1182	128000	1954	External	Welded	Fiberglass	03/28/02	01/07/08	>5

Enbridge failed to meet the external inspection intervals for 20 tanks at the Enbridge Terminal. Subsequently, Enbridge has modified its Breakout Inspection procedures to ensure the correct external inspection interval is determined such that it does not exceed the maximum 5 years, defined in API 653, and that the 5 year interval is clearly defined as 5 periods of 365 days instead of 5 *calendar* years, as previously applied by Enbridge.

2. §195.432 Inspection of in-service breakout tanks.

(b) Each operator shall inspect the physical integrity of in-service atmospheric and low-pressure steel aboveground breakout tanks according to section 4 of API Standard 653. However, if structural conditions prevent access to the tank bottom, the bottom integrity may be assessed according to a plan included in the operations and maintenance manual under §195.402(c)(3).

(d) The intervals of inspection specified by documents referenced in paragraphs (b) and (c) of this section begin on May 3, 1999, or on the operator's last recorded date of the inspection, whichever is earlier.

Enbridge acquired the Cushing Terminal facilities in 2004. Internal inspection reports and repair data were provided to Enbridge from the previous owner that indicated API Standard 653 (API 653) internal inspections had been performed on all of the existing tanks at various dates prior to the acquisition by Enbridge, except those that were newly constructed. Repair records were available with varying levels of detail about the repairs.

The summary of the tank data and the API 653 inspection dates were provided to the inspectors in the same Excel spreadsheet identified in item 1 of this letter. The inspection intervals appeared to be set at the 20 year maximum interval allowed by API 653 for all tanks at the facility, and corrosion rates were not included in the data. During the September field inspection, a conference call was held with additional integrity personnel from Enbridge. During this discussion, Enbridge explained their calculation process to the inspectors, and demonstrated a sample tank bottom corrosion calculation to determine the internal inspection interval.

Prior to the second week of field inspection scheduled for December 8, 2009, Enbridge was requested to provide additional information pertaining to the basis for the internal inspection intervals and identify the corrosion rates if the inspection intervals were calculated in accordance with API 653 Section 4.4.7.

During the field inspection carried out the week of December 7, 2009, the PHMSA inspector reviewed numerous calculations, API 653 inspection reports, and repairs that were performed. Based upon this document review, a subsequent request was made to Enbridge to establish the information upon which they based the calculation of the internal inspection intervals. During the closing meeting, the PHMSA inspector indicated that it appeared that there were as many as 35 tanks that appeared to be deficient in the internal inspection interval calculation, and asked

that Enbridge provide the necessary information to determine compliance with the requirements of API 653 for internal inspection interval calculations at the end of January 2010.

On February 3, 2010, Enbridge representatives met with PHMSA representatives at the Southwest Region office. During this meeting, Enbridge provided the specific information requested by PHMSA, where it was available, and provided a new Excel spreadsheet identifying the following tanks which did not have internal inspection intervals established in a manner that was consistent with the requirements of API 653.

API 653 Section 6.4.2 describes the method for establishing the inspection intervals for internal inspections. Section 6.4.2 requires the calculation of the internal inspection intervals in accordance with Section 4.4.7 of the standard, with a maximum internal inspection interval of 20 years. If, however, the corrosion rates are unknown, the maximum inspection interval is not to exceed 10 years, unless similar service experience is available to estimate the bottom plate thickness at the next inspection.

Specifically, Tanks 2225, 2226, 2227, and 2228 did not have an internal inspection performed within 10 years of construction to establish corrosion rates, and there was no process in place to apply similar service to these tanks. Tanks 2225 and 2226 were constructed in 1994 and Tanks 2227 and 2228 were constructed in 1999, and should have had an internal inspection completed no later than 2004 and 2009, respectively.

Enbridge failed to demonstrate that they had established a corrosion rate for the tank bottoms of Tanks and exceeded the 10 year maximum internal inspection interval for unknown corrosion rates on Tanks 2225, 2226, 2227, and 2228. Another option to determine the corrosion rate is to use tanks in similar service, as allowed by API Standard 653. However, Enbridge did not have similar service experience, or procedures to apply similar service experience available to make this inspection interval determination.

There were another 33 tanks identified by the PHMSA inspector that required additional information about the determination of the internal inspection interval. Based upon the information provided to PHMSA by Enbridge during the February 3, 2010 meeting, it was determined that the following tanks did not have adequate information to determine a bottom plate corrosion rate, and inadequate information to establish that the assumption of a corrosion rate of zero for either the top or bottom of the bottom plate. The previous owner's records were not adequate to support the assumption of a corrosion rate of zero. The maximum internal inspection interval for these tanks defaulted to 10 years, unless similar service was available to estimate the corrosion rates. Enbridge had no similar service procedures as an alternative to determine the corrosion rates, as allowed by API 653, and further stated that there were no tanks that met similar service criteria for the 33 tanks in question. The reassessment of the internal inspection intervals by Enbridge identified the following 19 tanks as having exceeded the API 653 maximum 10 year interval when corrosion rates were unknown and similar service was not available.

Tank No.	Date Built	Shell Construction	API 653 Internal Current	10 Year Maximum Interval	API 653 Internal Scheduled
3001	1921	Riveted	11/29/94	11/29/04	*11/29/2014
3004	1921	Riveted	08/25/95	08/25/05	*08/25/2015
3006	1921	Riveted	10/13/98	10/13/08	*10/13/2018
3013	1978	Welded	05/25/92	05/25/02	2012
2203	1920	Riveted	10/16/98	10/16/08	2018
2211	1920	Riveted	05/08/92	05/08/02	2012
2223	1975	Welded	11/20/91	11/20/01	2009
2224	1975	Welded	11/20/91	11/20/01	2011
3360	1946	Welded	07/28/94	07/28/04	2014
1395	1953	Welded	02/11/97	02/11/07	2026
1012	1922	Riveted	07/15/91	07/15/01	2011
1016	1927	Riveted	06/01/97	06/01/07	2017
1024	1922	Riveted	07/08/93	07/08/03	2013
1034	1927	Riveted	10/01/92	10/01/02	2012
1035	1927	Riveted	08/23/95	08/23/95	2015
1153	1947	Welded	10/28/93	10/28/03	2013
1155	1947	Welded	09/29/95	09/29/05	2015
1156	1947	Welded	07/12/91	07/12/01	2011
1181	1954	Welded	05/31/96	05/31/06	2016

*These tanks are scheduled for demolition prior to their next scheduled internal inspection

In total, Enbridge failed to inspect the 23 tanks, 4 of which were newly constructed and had no previous inspections to establish a corrosion rate, and 19 of which were existing but did not have adequate information to determine an appropriate corrosion rate and subsequently exceeded the maximum 10 year internal inspection interval allowed by API 653.

Proposed Civil Penalty

Under 49 United States Code, § 60122, you are subject to a civil penalty not to exceed $100,000 for each violation for each day the violation persists up to a maximum of $1,000,000 for any related series of violations. The Compliance Officer has reviewed the circumstances and supporting documentation involved in the above probable violation(s) and has recommended that you be preliminarily assessed a civil penalty of $28,800 as follows:

Item number	PENALTY
1	$28,800

Proposed Compliance Order

With respect to item 2 above, pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to Enbridge.

Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Response to this Notice

Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Compliance Proceedings*. Please refer to this document and note the response options. Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. 552(b). If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue a Final Order.

In your correspondence on this matter, please refer to **CPF 4-2010-5008** and for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

R. M. Seeley
Director, Southwest Region
Pipeline and Hazardous
Materials Safety Administration

Enclosures: *Proposed Compliance Order*
Response Options for Pipeline Operators in Compliance Proceedings

cc: Shaun Kavajecz, Manager, Pipeline Safety Compliance, Enbridge Pipelines, L. L. C.

PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to Enbridge Pipelines, L.L.C. (Enbridge) a Compliance Order incorporating the following remedial requirements to ensure the compliance of Enbridge with the pipeline safety regulations:

1. In regard to Item Number 2 of the Notice pertaining to exceeding the maximum API Standard 653 internal inspection interval for 23 breakout tanks identified in the following table at Cushing Tank Farm. Enbridge shall prepare a schedule for completion of the out of service internal inspections and submit it to PHMSA no later than 30 days from this Final Order. Upon approval of the proposed inspection schedule by PHMSA, Enbridge shall carry out the inspections and any necessary repairs.

Tank No.	Date Built	Shell Construction	API 653 Internal Current	10 Year Maximum Interval	API 653 Internal Scheduled
3001	1921	Riveted	11/29/94	11/29/04	*11/29/2014
3004	1921	Riveted	08/25/95	08/25/05	*08/25/2015
3006	1921	Riveted	10/13/98	10/13/08	*10/13/2018
3013	1978	Welded	05/25/92	05/25/02	2012
2203	1920	Riveted	10/16/98	10/16/08	2018
2211	1920	Riveted	05/08/92	05/08/02	2012
2223	1975	Welded	11/20/91	11/20/01	2009
2224	1975	Welded	11/20/91	11/20/01	2011
2225	1994	Welded	New	2004	2014
2226	1994	Welded	New	2004	2014
2227	1999	Welded	New	2009	2019
2228	1999	Welded	New	2009	2019
3360	1946	Welded	07/28/94	07/28/04	2014
1395	1953	Welded	02/11/97	02/11/07	2026
1012	1922	Riveted	07/15/91	07/15/01	2011
1016	1927	Riveted	06/01/97	06/01/07	2017
1024	1922	Riveted	07/08/93	07/08/03	2013
1034	1927	Riveted	10/01/92	10/01/02	2012
1035	1927	Riveted	08/23/95	08/23/95	2015
1153	1947	Welded	10/28/93	10/28/03	2013
1155	1947	Welded	09/29/95	09/29/05	2015
1156	1947	Welded	07/12/91	07/12/01	2011
1181	1954	Welded	05/31/96	05/31/06	2016

*These tanks are scheduled for demolition prior to their next scheduled internal inspection

2. Enbridge shall provide quarterly updates on the progress of the tank inspections to the PHMSA Southwest Region Office until such time that the tank inspections identified in the approved schedule developed in Item 1 of this Final Order have been completed. The quarterly updates shall identify the schedule, inspection results and recommended repairs as well as a repair schedule and results for the tanks listed in Item 1 of this Final Order.

3. Enbridge shall maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to R. M. Seeley, Director, Southwest Region, Pipeline and Hazardous Materials Safety Administration. Costs shall be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies and analyses, and 2) total cost associated with replacements, additions and other changes to pipeline infrastructure.