From:	Ken Crowl
To:	Barrett, David (PHMSA); Daniel Cerkoney; Ochs, Gregory (PHMSA); Butler, Karen (PHMSA); Bunn, James (PHMSA); Miller, Warren (PHMSA); McLaughlin, Mike (PHMSA); Hodill, Gabe (PHMSA)
Cc:	Vern Meier; Bruce Dupuis
Subject:	FW: Restart Authorization
Date:	Monday, October 22, 2012 3:57:23 PM
Attachments:	NPS 30 Keystone Pipeline - Salisbury to Patoka Repair Dec - Technical Memo - 10-22-12.pdf Keystone Pipeline Restart Operations Plan 2012 10 21.doc

David,

We have commenced the restart of the Keystone Pipeline. Attached is the restart plan and Vern's approval of the technical memorandum. The Media talking points discussed this morning will be provided as soon as I receive them.

Regards,

Ken Crowl

From: Vern Meier
Sent: Monday, October 22, 2012 2:12 PM

Subject: Restart Authorization

Based on the attached Engineering documentation and field verification of the completion of the final repair please accept this as authorization from Field Operations to commence the restarting of the Keystone Pipeline in accordance with the attached Restart Plan.

Regards,

Vern Meier

From: Tirso Gonzalez
Sent: Monday, October 22, 2012 12:12 PM
To: Tirso Gonzalez; James Baggs; Vern Meier; Bruce Dupuis; Erik Tatarchuk; Dale Wascherol; Richard Prior; Kevin Maloney; Trae Miller III; Dan King; Daniel Cerkoney; James Card; Jim Krause; David Chittick; James Card; Paul MacGregor; Tracy Schultz
Subject: RE: 1 Min update from site

Plidco clamp is torqued to specifications and complete. Sites 1-4 are complete.

Regards,

Tirso D. Gonzalez
TransCanada Pipelines
Project Manager
U.S. Integrity, Maintenance & Construction
[redacted]

message. Thank you.

Technical Memorandum

TransCanada
In business to deliver

Date: October 22, 2012
To: Vern Meier
From: Gabriela Rosca
Cc: Tirso Gonzales, Richard Kania, David Coker, David Chittick, Richard McGregor, Bruce Dupuis
Re:
Subject: NPS 30Keystone Pipeline – Salisbury to Patoka Repair Decision

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Background

Based on the preliminary MFL inspection report of NPS 30 Salisbury to Patoka received from Baker Hughes on October 18, 2012 there were 4 immediate metal loss anomalies with a Peak depth greater than or equal to 70% W.T.

Baker ILI Immediate Feature summary

Valve	Feature	Peak Depth (%)	FPR	Length (In)
SNTPL+0.4_8-A0-MLV-001	DMA 204496	95	1.19	0.63
SNTPL+0.4_8-A0-MLV-001	DMA 205022	78	1.19	1.54
SNTPL+0.4_8-A0-MLV-001	CLS 30000	79	1.39	2.22
SNTPL+0.4_8-A0-MLV-001	DMA 210611	83	1.38	0.51

ILI versus Actual Data and Associated Mitigation Summary

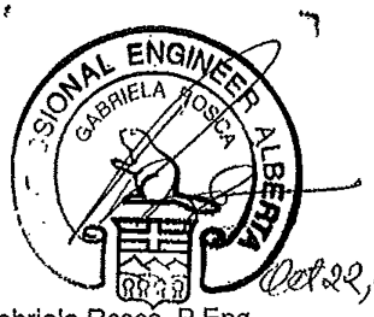
Feature	ILI Peak Depth (%)	ILI Length (in)	WT (in)	Actual Peak Depth (%)	Actual Length (in)	AWT (in)	Repair Required	Repair Implemented	FPR
DMA 204496	95	0.63	0.386	96.9	1.0	0.386	pressure containing sleeve (Type B)	Plidco Clamp (temporary)	n/a
DMA 205022	78	1.54	0.386	73.8	2.01	0.393	recoat	Armor Plate	1.27
CLS 30000	79	2.22	0.386	59.9	1.01	0.397	recoat	Armor Plate	1.45
DMA 210611	83	0.51	0.386	61	1.01	0.393	recoat	Armor Plate	1.44

Technical Memorandum

TransCanada
In business to deliver

All the immediate features have been mitigated to ensure the integrity of the pipeline (design MOP of 1440 psi).

Prepared by:



Oct 22, 2012

Gabriela Rosca, P.Eng
Pipe Integrity, Program Support

Reviewed by:

Oct 22, 2012

Bruce Dupuis, P.Eng
Program Manager, Liquid Pipeline Integrity

TC Permit to Practice: 7100

Approved By:

10/22/12

Vern Meier
Vice President

Keystone Pipeline Restart Operations Plan

Following shutdown of the Keystone pipeline on October 17, 2012, repair of the identified anomalies downstream of Saint Paul pump station commenced under the direction of TransCanada's Integrity Management and Construction group. During this time period the Oil Control Center staff in Calgary continued to monitor pipeline pressures and confirm that no loss of pressure was observed due to a loss of oil from the pipeline.

The prerequisite to commence with pipeline restart operations will be formal confirmation from the Vice President of US Pipeline Operations that the all anomalies have been satisfactorily addressed and it is safe to proceed with remote operation of the pipeline.

In preparation for restarting the pipeline, voluntary pressure restrictions have been placed on the pipeline to ensure the pipeline operating pressure at the anomaly locations downstream of Saint Paul pump station cannot exceed a maximum of 80% of the 60 day high historical operating pressure. These line pressure control (LPC) settings have been engineered to account for transient operating conditions and have been installed at the Centralia, Middletown, Saint Paul, Hartford and Pierron pump stations on October 20, 2012.

Upon receipt of confirmation to safely restart the pipeline, the Oil Control Center will proceed to open all remote sectionalizing valves and proceed with pre start up system checks in accordance with established Oil Control Center procedures. These procedures for restarting the pipeline are the same procedures that are used for all pipeline restart operations.

Since the pipeline will have been shutdown for approximately 4.5 days on the Steele City to Patoka segment and approximately 3 days on the Hardisty to Steele City segment, approximately 2,000 m^3 (12,600 bbls) of column separation has been calculated on the pipeline. The regions of column separation have been distinctly identified by pressure transmitters located at each of Keystone's pump stations and Remote Mainline Valves.

During initial start up operations of the pipeline, the pipeline will be operated at a nominal operating flowrate of 2,200 to 2,500 m^3/hr (13,900 to 15,700 bbls/hr). The pipeline will be operated with select pump stations such that column is reconstituted in a predictable and safe fashion. This will be accomplished by closely monitoring all pressure locations on the pipeline to ensure the rate of pressure increase in the areas where the column is being reformed is commensurate with the pipeline injection rate at Hardisty, AB. If at any time during the column reconstitution process a pressure anomaly is discovered, the Oil Control Center operators will investigate the anomaly immediately and if necessary shut down pipeline operations until the anomaly has been reconciled and it is safe to resume restart operations.

In addition to the diligence given to pipeline restart operations in the Oil Control Center, each anomaly that has been addressed will be visually observed to confirm the integrity of the repairs during restart operations. In addition, Keystone will complete an aerial surveillance of the pipeline via airplane during restart operations.

After the column has been reconstituted and the integrity of each repair has been confirmed, the pipeline flow rate will be increased in an orderly manner to continue regular scheduled operations.

Keystone is confident that all operational risks have been identified and mitigated through the restart operations plan.

October 21, 2012

From:	Ken Crowl
To:	Barrett, David (PHMSA); Ochs, Gregory (PHMSA); Butler, Karen (PHMSA); Bunn, James (PHMSA); Miller, Warren (PHMSA); McLaughlin, Mike (PHMSA); Hodill, Gabe (PHMSA)
Cc:	Vern Meier; Bruce Dupuis; Daniel Cerkoney
Subject:	Keystone Restart
Date:	Monday, October 22, 2012 5:17:27 PM

The pipeline has completed the restart process as of 14:00 MST (16:00 Central). The liquid column has been reconstituted to Patoka and the flow rate has been increased to 2900 m3/h (438 KBPD).

Regards,

Ken Crowl

From:	Barrett, David (PHMSA)
To:	Hess, John (PHMSA); Seeley, Rodrick M. (PHMSA)
Cc:	PHMSA PHP300 CENTRAL
Subject:	Update on TC Oil (Keystone) shutdown
Date:	Thursday, October 18, 2012 6:27:59 AM
Attachments:	Spatial overview of sites.png

Late yesterday, October 17, 2012, TC Oil (Keystone) reported shutting down the pipeline in response to an anomaly indication preliminarily reported by an ILI vendor.

On September 28, 2012 a high resolution MFL tool run was completed from Salisbury, MO to Patoka, IL on the Keystone Pipeline. Yesterday, the ILI vendor contacted Keystone to report an external metal loss anomaly located in St. Charles County, MO (northwest of the St. Louis metro area). The anomaly is short and deep (95% deep). In response, TC Oil shut down and isolated the pipeline by closing valves. Personnel were sent to the location of the anomaly, and hydrocarbons have not been detected thus far at the site. As of last night, plans were to begin excavation this morning.

Subsequent to the originally reported 95% deep anomaly, three more similar anomalies have been identified within 4 miles downstream of the 95% deep ILI feature and will be investigated. These anomalies are also reported to be external metal loss ranging from 78% to 83% deep. The attached map shows the location of the anomalies (DMA 204496 is the 95% deep feature) in a rural area. The pipeline flows from west to east, and is approx. ½ to 1 mile south of the Mississippi River as shown on the map.

A PHMSA engineer will be en route to the site today from Kansas City.

TC Oil (Keystone) is one of the TransCanada companies, and transports crude oil from Canada to the US market. The pipe is 30-inch diameter, 0.386" w.t., X-70 at the location of the anomalies. The Keystone pipeline is subject to a PHMSA issued Special Permit that allows operation up to 80% SMYS. However, the pipeline has not operated at the 80% SMYS level, and has been operating no higher than 72% SMYS per Part 195 regulations.

OPS Central Region will provide further updates as more information becomes available.