Management of Change Form

Title: Line 5 Straights of Mackinaw MOP Implementation

Originator: James Martin **MOC #:** 2009-12

Date Initiated: 11/11/2009 **Status:** Implemented

Standard, Policy, or Procedure affected by Change: EBSS Line Description, Pressure Allowables

Proposed Date of Change: 6/22/2012

Change Duration: ◉ Permanent **End Date:** -

Required Approval Date: 6/15/2012 **Post Change Review Date:** 8/31/2012

Vetting Committee(s): Department:

Purpose of the Change

Reason for Change:

Pressure on the pipes crossing the Straits of Mackinaw on Line 5 have been restricted to 425 psi for the past several years due to the perception that, under no circumstances, could the pressure exceed 600 psi as specified by the Michigan State Commerce Commission. The 425 psi setting was chosen based on calculations that proved the pressure would never exceed 600 psi, even under transient, or abnormal operating conditions. While the 425 psi setting ensures no pressure excursions above 600 psi, this restriction makes it difficult to operate the pipeline and results in inadvertent shutdowns of the line. Documentation has been recently located which suggests that the Maximum Operating Pressure (MOP) in this section of pipe is 600 psi. This means that the setting at the Straits could be potentially increased up to 600 psi, provided that transients did not exceed 660 psi (110% of MOP). This increased setting would improve the operability of the pipeline and result in fewer shutdowns.

Scope of Change:

Revise EBSS Line 5 line descriptions, Op Limits study and Pressure Allowables.

Type of Change (select all that apply):

☐ New Facilities	☑ Piping	☐ Equipment	☐ Material	☐ Process	☐ Procedure/Policy
☐ Instrumentation	☑ Controls/Setpoint	☐ Training	☐ Green Power and Transmission	☐ Critical or Emergency	☐ Other:

Affected Department(s) (select all that apply):

☑ Control Center	☐ Environment	☐ Gathering System - EPSI	☐ Gathering System - ND	☑ Integrity
☐ Land & ROW	☐ Law & Regulatory Affairs	☐ Loss Management	☐ Measurement Services	☑ Operations
☐ P/L Control & Leak Detection	☐ Petroleum Quality	☐ Procurement	☐ Safety	☑ Compliance/OQ
☑ Engineering	☑ Fac Man			

Document Attachments

Link	Title
[View]	Straits Of Mackinac Pipe Line Easement
[View]	Summary of Change- PTCC Vetting
[View]	U.S. Pressure Testing Committee Meeting-February 05, 2004
[View]	U.S. Pressure Testing Committee Meeting-February 19, 2004
[View]	Revised Limits MP 1479 Line 5-February 19,2004
[View]	Straits of Mackinac- Hydrotest
[View]	Corrosion Defect Review
[View]	Geometry Defect Review
[View]	Cracking Defect Review

Approvals

Area	Approver Name	Department	Comments	Approval	Approval Date
Compliance/OQ	Bradley Salo	LP PL Compliance Audits & Insp (10000827)		Approved	6/1/2010
Control Center	James Martin	LP PL Facilities Management (10003239)		Approved	8/8/2011
Engineering	Juan Perez	LP Engineering Special Prjs (10002908)	Aproved with the caveat that a transient analysis should be performed.	Approved	6/13/2010
Fac Man	Jarrett Kachur	LP Research Dev & Innovation (10002160)	Approved from a hydraulics standpoint.	Approved	5/31/2010
Integrity	Ryan Sporns	LP CAN Pipeline Compliance (10002900)	Corrosion, cracking and geometry reviews were completed of the ILI data. Based on these reviews and data/information available to PI at this time, there is no reason not to proceed with the pressure restriction removal.	Approved	9/21/2012
Operations	Mike Goman	LP US Operations Services (10003467)	Contingent on review of pipe elevation across Straits to ensure that 80% of 790 psi (at 590' elevation) results in a MOP of at least 600 psi across the entire length of 20" pipe.	Approved	6/4/2010

Pre-Modification Tasks

Task	Responsible Person	Responsible Department	Date Informed	Completion Deadline	Completion Date
Review crossing elevations to ensure 600 psi MOP is appropriate given the 790 psi test pressure at elev. 590 feet (north scraper barrel)	James Martin	LP PL Facilities Management	6/4/2010	8/11/2010	12/18/2011

Post-Modification Tasks

Task	Responsible Person	Responsible Department	Date Informed	Completion Deadline	Completion Date
Transient Analysis	Leanne Thomson	LP Process Eng & Transient Hyd	5/26/2010	8/20/2010	-
Revise High Pressure Shutdown Setting	Richard Folkema	LP PL Ctrl Tech Svcs Eng	5/26/2010	8/27/2010	10/1/2012
Create Communication Strategy	James Martin	LP PL Facilities Management	5/26/2010	12/9/2009	-

Q&A Forum

Question	Posted By	Posted On	Answer	Answered By	Answered On
Why were we under the perception that we could not exceed 600psi?	Juan Perez	6/8/2010	I think in the past we did not consider surge pressure is allowed to go up to 110%MOP = 660 psi.	James Martin	6/11/2010
Who conducted this transient hydraulic analysis? What transient events did they consider (i.e. pump trips, PCV closures, etc…)?	Juan Perez	6/8/2010	To my knowledge, transient analysis has not been conducted. I have added a post checklist item for Facilities Management to be responsible for transient analysis to determine the appropriate change to the High Pressure setting.	James Martin	6/11/2010
"Documentation has been recently located which suggests that the Maximum Operating Pressure (MOP) in this section of pipe is 600 psi." What type of documentation?	Juan Perez	6/8/2010	The documentation is the "Straits Of Mackinac Pipe Line Easement" which can be found in the attachements section of this MOC.	James Martin	6/11/2010

Distribution List

Name	Department	Assigned Responsibility	Assigned By	Assigned On	Status	Completion Date
Blaine Reinbolt	LP PL CCO Terminals	Control Center	Jim Johnston	5/27/2010	Approved	8/8/2011
Ian Melligan	LP CAN West Rgn Pipeline Svcs	Control Center	SYSTEM	8/2/2010	Approved	8/8/2011
James Martin	LP PL Facilities Management	Control Center	Ian Melligan	8/8/2011	Approved	8/8/2011
Juan Perez	LP Engineering Special Prjs	Engineering	Robert Satchwell	5/26/2010	Approved	6/13/2010
Steven Bott	LP PL Intgr Reliability Assess	Integrity	deboerf	7/19/2010	Approved	9/21/2012

Anna Warawa	LP PL Integrity QMS	Integrity	SYSTEM	8/2/2010	Approved	9/21/2012
Steven Bott	LP PL Intgr Reliability Assess	Integrity	Anna Warawa	8/16/2010	Approved	9/21/2012
Millan Sen	LP PL Intgr Strat Initiatives	Integrity	Steven Bott	8/8/2011	Approved	9/21/2012
Ryan Sporns	LP CAN Pipeline Compliance	Integrity	Millan Sen	6/7/2012	Approved	9/21/2012
Mike Goman	LP US Operations Services	Operations	Kevin Kocil	5/26/2010	Approved	6/4/2010