U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

901 Locust Street, Suite 462
Kansas City, MO 64106-2641

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

September 3, 2010

Mr. Shaun Kavajecz
Manager, Pipeline Safety Compliance
Enbridge Pipelines (Lakehead), LLC
119 N 25th Street E
Superior, WI 54880

Re: CPF 3-2010-5008H
Restart Plan

Dear Mr. Kavajecz:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) issued the Corrective Action Order (Order) referenced above on July 28, 2010 following the failure of Enbridge's Line 6B pipeline near Marshall, Michigan. PHSMA Central Region has received your submission of August 31, 2010 supplementing your revised restart plan with various materials including the *Line 6B Integrity Summary Assessment for Return-to-Service at Lower Interim Operating Pressure* document (Line 6B Integrity Summary) and requesting approval to restart the pipeline at reduced pressure. On September 2, 2010, Enbridge made an overview presentation to PHSMA staff regarding the Line 6B Integrity Summary in Kansas City.

Having reviewed the materials submitted to date by Enbridge, prior to approval of the restart plan or approval to restart the pipeline, the following additional information is required in order for PHMSA to complete its review and evaluation of Enbridge's request:

1. The Line 6B Integrity Summary mentions that potential growth rates for all feature types has been calculated and concludes that all remaining features will be safe during operation. Provide the growth rate analyses that support your conclusion that the line will be safe during operation. Include calculations that show the remaining life of possible near-critical defects based on the actual pipeline operating pressures everywhere along the pipeline immediately prior to the failure. Additionally, include an analysis of possible defect growth rates at the failure site. Remaining life

calculations based on those defect growth rates must be applied to other known pipeline anomalies in order to determine the need for additional remediation.

2. Per the Line 6B Integrity Summary, PHMSA understands that Enbridge is continuing investigative integrity excavations on Line 6B. Submit a prioritized schedule for the excavations along with the rationale for each excavation (e.g. type of anomaly to be investigated, milepost and pipe joint number of the anomaly, projected growth rate, and any other pertinent information).

3. PHMSA understands that Enbridge will utilize in-line inspection (ILI) upon restart to further assess the pipeline. Depending on the timing of possible restart, these assessment(s) could occur prior to submission and approval of the Integrity Verification Plan required by the Order. Therefore, submit an anticipated schedule including the type(s) of ILI tools to be utilized and the rationale for those tool type(s).

4. Submit a description of the overprotection systems in place at the Sarnia Terminal and an analysis of possible adjustments to the Sarnia overpressure protection system to provide additional protection of the dent in the St. Clair River crossing due to possible abnormal operations. Include a discussion of how these adjustments would be implemented and communicated in the field (Local PLC, RTU, or other) and remote control room systems. Provide a listing of all associated setpoint and/or alarm/alert/notification values relevant to this additional protection to PHMSA. If adjustments are made, confirm that these modifications have been modeled and training provided to control center personnel including leak detection analysts as to the impact on the hydraulics associated with leak detection and normal operation.

5. The Line 6B Integrity Summary indicates revised settings for the Stockbridge and Howell pump stations, and also describes that at certain times Stockbridge may be operated at 360 psig depending on pipeline operations. Submit documentation demonstrating the last operational information for these stations was used to calculate the proposed reductions at Stockbridge and Howell. Also, submit a detailed description of how discharge pressures will be managed at Stockbridge, including a description of how these adjustments will be implemented and communicated in the field (local PLC, RTU, or other) and remote control room systems. Include a listing of all associated setpoint and/or alarm/alert/notification values relevant to this additional protection. Also confirm that these modifications have been modeled and training provided to control center personnel including leak detection analysts as to the impact on the hydraulics associated with leak detection and normal operation.

6. PHMSA requires further clarification on the various control center and leak detection elements as follows:

    a. Provide a description of any automatic software, should it exist, that could be triggered during the restart for any operational element (not just limited to manual valve operations. Examples would be: any station interlocks on shutdown or pump/station cascading or setpoint adjustments made

automatically from one piece of equipment to another). Include in this description how any manual to automatic limitations associated with control (such as setpoints, alarms, or other) will be reviewed for the proper setting before restart.

b. Submit a listing by point name (including point name description) for Line 6B of all alarm values (e.g. HI-HI, LO-LO, etc.) or setpoint limitations associated with pressures and flows for the control room and a list of all alarm and setpoint limitation values per type in each of the station PLC/RTU per station. Include those values previously checked as the result of completion for Item 11 of the Control Center Response to PHMSA 082810.

c. Item 12 of the Control Center Response to PHMSA 082810 indicated that the shift change report requires a review of manual set warnings. Document and provide the values associated with these manual set warnings to PHMSA.

d. Previous verbal information provided by Enbridge to PHMSA confirmed that at least one simulation had been run at reduced pressures to assist with the restart and refresher training. Provide documentation regarding the specific reduced pipeline pressures simulated. An input and output summary of this simulation if available from the software or hydraulic tool itself will be accepted.

e. With regard to Item 14 of the Control Center Response to PHMSA 082810 "Operational Considerations and Operating Nuances," include those considerations relevant to the Line 6B infrastructure as the original intent to this modification was to make sure that the shift leads and operators/controllers are aware of the specific pipeline condition and concerns in certain areas before restart.

Finally, in your August 31, 2010 correspondence, you stated that you believed all requirements of the Corrective Action Order have been fulfilled. Note that all requirements of the Corrective Action Order will not be fulfilled until the integrity verification and remedial work plan is submitted, approved, and the work therein completed.

If you have additional questions about the information to be submitted, please contact me or my staff. Thank you for your cooperation.

Sincerely,

David Barrett
Director, Central Region
Pipeline and Hazardous Materials Safety Administration