U.S. Department
of Transportation

Pipeline and Hazardous Materials
Safety Administration

1200 New Jersey Ave., SE
Washington, DC 20590

Mr. Geoffrey A. Craft
Vice President and Southern Operations Manager
ExxonMobil Pipeline Company
800 Bell Street
Houston, Texas 77002

SEP 3 0 2011

Docket No. PHMSA-2011-0056

Dear Mr. Craft:

On December 16, 2010, ExxonMobil Pipeline Company (EMPCo) submitted its application for a special permit to waive compliance from the Pipeline and Hazardous Materials Safety Administration's (PHMSA) pipeline safety regulation 49 CFR § 195.452(h), for its South Bend to New Iberia and New Iberia to Sunset pipeline segments in Louisiana ("special permit segments"). Specifically, EMPCo seeks permission to employ alternative metal loss and dent repair criteria for 49 CFR § 195.452(h)(4)(ii)(A) and (iii)(A, B, E, and F) for 1951 reconditioned lap welded pipe sections of the special permit segments. This pipeline transports crude oil production from Louisiana's South Marsh Island Offshore System pipeline to the New Iberia and Sunset stations.

EMPCo previously applied for a similar special permit on June 15, 2006, and July 19, 2007, in dockets PHMSA-2007-27120 and PHMSA-2007-2903. These prior requests were denied on August 18, 2010, for failure to provide enough technical information.

PHMSA discussed the current special permit application with EMPCo on January 24, 2011, ultimately requesting additional technical information for docket PHMSA-2011-0056. EMPCo submitted a supplemental information package to PHMSA on March 2, 2011.

The application is based upon changing the repair threshold for top of pipeline dents from 3% to 4.5% for 60-day repairs; girth weld and longitudinal seam weld dent repairs from 2% to 4.5% for 180-day repairs; top of pipeline dents from 2% to 4.5% for 180-day repairs; general corrosion metal loss anomaly repairs from 50% to 65% wall loss; and in the crossing of another pipeline, or in an area of widespread circumferential corrosion, or in an area that could affect a girth weld metal loss anomaly repairs from 50% to 65% wall loss.

Although PHMSA may grant special permits as allowed in § 190.341 and does so when justified, the Hazardous Liquid Pipeline Integrity Management Rule in 49 CFR § 195.452 went through rigorous public, operator, and PHMSA technical reviews during the rulemaking

process. However, special permit approvals of this magnitude would require extensive technical justification. The application and supplemental information submitted to PHMSA does not include any completed technical justifications including mechanical properties tests of anomalous conditions that were previously repaired by puddle welds during reconditioning activities that were performed circa 1951, prior to the current pipeline installation. EMPCo has not submitted sufficient technical justification to prove that usage of in-line inspection tools to document puddle welds is repeatable from each integrity management inspection interval. EMPCo has not submitted sufficient technical justification in the application to show that raising the hazardous liquid integrity management anomaly repair criteria would not be inconsistent with pipeline safety in high consequence areas. Therefore, PHMSA is denying EMPCo's application request for a special permit.

EMPCo must ensure that these special permit segments are in compliance with § 195.452(h) based upon metal loss and dent repair criterion and timing. The filing of a special permit request does not limit the operator's obligation under the pipeline safety regulations to meet integrity management assessments and repairs in high consequence areas in accordance with 49 CFR § 195.452.

For additional information concerning PHMSA's review of your application and the basis for our decision, please see the enclosed Special Permit Analysis and Findings document. This and all other pertinent documents are available for review in Docket No. PHMSA-2011-0056 in the Federal Docket Management System (FDMS) located on the internet at www.Regulations.gov.

Pursuant to § 190.341(i), reconsideration of this decision may be sought by petition to the Associate Administrator. Petitions must be received by PHMSA within 20 calendar days of the notice of the denial and must contain a brief statement of the issue and an explanation of why the petitioner believes the decision is not in the public interest. The Associate Administrator may grant or deny, in whole or in part, any petition for reconsideration without further proceedings.

My staff would be pleased to discuss this matter or any other regulatory matter with you. John Gale, Director of Standards and Rulemaking (202-366-0434), may be contacted on regulatory matters and Jeff Gilliam, Director of Engineering and Research (202-366-0568), may be contacted on technical matters specific to this special permit application.

Sincerely,

for: Jeffrey D. Wiese
Associate Administrator for Pipeline Safety

Enclosure: Special Permit Analysis and Findings

U.S. DEPARTMENT OF TRANSPORTATION

PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION (PHMSA)

Special Permit Analysis and Findings

Special Permit Information:

Docket Number:	PHMSA-2011-0056
Pipeline Operator:	ExxonMobil Pipeline Company
Date Requested:	December 16, 2010, as supplemented March 2, 2011
Code Section(s):	49 CFR § 195.452(h)(4)(ii)(A) and (iii)(A, B, E, and F)

Purpose:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides this information to describe the facts of the subject special permit application submitted by ExxonMobil Pipeline Company (EMPCo), to discuss any relevant public comments received with respect to the application, to present the engineering/safety analysis of the special permit application, and to make findings regarding whether the requested special permit should be granted, and if so, under what conditions.

Pipeline System Affected:

This special permit request involves *special permit segments* along the reconditioned sections (lap welded pipe) of EMPCo's two (2) 12.75-inch crude oil pipelines located between South Bend Station to New Iberia and Sunset Stations located in St. Mary, Iberia, St. Martin, Lafayette, and St. Landry Parishes, Louisiana. As part of its application, EMPCo seeks to continue to operate the *special permit segments* at their current maximum operating pressure (MOP) of 394 and 378 pounds per square inch gauge (psig) and to modify the repair criteria for dents and metal loss in 49 CFR § 195.452(h)(4)(ii)(A) and (iii)(A, B, E, and F) for *special permit segments 1 and 2* below.

This special permit application applies to the EMPCo *special permit segments* defined as follows:

- *Special permit segment 1* – 12.75-inch South Bend to New Iberia Pipeline, total mileage of 36.33 miles of which this *special permit segment 1* would apply to the 27.46 miles of reconditioned lap welded pipe (12.75-inch, 0.375-inch, Grade A, Coal Tar Coated, with undocumented mechanical and chemical properties for the pipe). The 36.33 miles of 12.75-inch South Bend to New Iberia Pipeline has a total active displacement of approximately 27,093 barrels of crude oil. This *special permit segment 1* is located in St. Mary and Iberia Parishes, Louisiana. The 12.75-inch South Bend to New Iberia Pipeline includes 26.5 miles of high consequence areas (HCAs) as defined in 49 CFR § 195.450. EMPCo identifies the other pipe in the South Bend to New Iberia Pipeline as being low frequency- electric welded (LF-ERW) and seamless, which would be evaluated and repaired in accordance with 49 CFR § 195.452(h).
- *Special permit segment 2* - 12.75-inch New Iberia to Sunset Pipeline, total mileage of 34.46 miles of which this *special permit segment 2* would apply to the 22.33 miles of reconditioned lap welded pipe (12.75-inch, 0.375-inch, Grade A, Coal Tar Coated, with undocumented mechanical and chemical properties for the pipe). The 34.46 miles of 12.75-inch New Iberia to Sunset Pipeline has a total active displacement of approximately 25,975 barrels of crude oil. This *special permit segment 2* is located in St. Martin, Lafayette, and St. Landry Parishes, Louisiana. The 12.75-inch New Iberia to Sunset Pipeline includes 32.0 miles of high consequence areas (HCAs) as defined in 49 CFR § 195.450. EMPCo identifies the other pipe in the New Iberia to Sunset Pipeline as being low frequency- electric welded (LF-ERW), seamless, or unknown pipe, which would be evaluated and repaired in accordance with 49 CFR § 195.452(h).

Special permit segment 1, 12.75-inch South Bend to New Iberia Pipeline, has a maximum operating pressure (MOP) of 394 pounds per square inch gauge (psig). *Special permit segment 2,* 12.75-inch New Iberia to Sunset Pipeline, has a maximum operating pressure (MOP) of 378 pounds per square inch gauge (psig).

Special Permit Request

EMPCo submitted an application to PHMSA on December 16, 2010, as supplemented on March 2, 2011, for a special permit seeking relief from Section 195.452(h) of the Federal pipeline safety regulations for two (2) 12.75-inch crude oil pipelines where EMPCo has not completed the repairs of dents and corrosion anomalies. This special permit application, if granted, would allow EMPCo to modify the anomaly repair conditions set forth in 49 CFR § 195.452(h)(4)(ii)(A) and (iii)(A, B, E, and F) for the *special permit segments 1 and 2*. EMPCo requests approval to change the repair threshold for top of pipeline dents from 3% to 4.5% for 60-day repairs; girth weld and longitudinal seam weld dent repairs from 2% to 4.5% for 180-day repairs; top of pipeline dents from 2% to 4.5% for 180-day repairs; general corrosion metal loss anomaly repairs from 50% to 65% wall loss; and in the crossing of another pipeline, or in an area of widespread circumferential corrosion, or in an area that could affect a girth weld metal loss anomaly repairs from 50% to 65% wall loss.

In its application, EMPCo requested a waiver from the following specific hazardous liquid integrity management code sections and proposed the following changes (:

"49 CFR 195.452(h)(4):

ii. 60-day conditions

A. A dent located on the top of the pipeline (above the 4 and 8 o'clock positions) with a depth greater than 3% of the pipeline diameter - *EMPCo proposes to raise the repair threshold from 3% to 4.5%.*

iii. 180-day conditions

A. A dent with a depth greater than 2% of the pipeline's diameter that affects pipe curvature at a girth weld of a longitudinal seam weld - *EMPCo proposes to raise the repair threshold from 2% to 4.5%*;

B. A dent located on the top of the pipeline with a depth greater than 2% of the pipeline's diameter – *EMPCo proposes to raise the repair threshold from 2% to 4.5%*;

E. An area of general corrosion with a predicted metal loss greater than 50% of nominal wall – *EMPCo proposes to raise the repair threshold from 50% to 65%*; and

F. Predicted metal loss greater than 50% of nominal wall that is located at a crossing of another pipeline, or is in an area with widespread circumferential corrosion, or is in an area that could affect a girth weld – *EMPCo proposes to raise the repair threshold from 50% to 65%.*"

EMPCo in its supplemental of March 2, 2011, stated:

"Regarding metal loss anomalies the proposed criteria was designed to address anomalies with the following characteristics:

1) Dimensions show any indication of significant growth when compared to baseline inspection results;
2) Safe operating pressure rating with projected growth for 10 years is below the system MOP (6 mils per year (mpy) of growth based on physically measured anomalies – the most aggressive corrosion rate experienced anywhere on the pipeline to date); and
3) Call depth is $\geq$ 65%. This criterion was added to establish a minimum threshold for repair per PHMSA's request in April 2010.

It was determined that all wall loss anomalies less than 655 are due to puddle welds. It was determined that 100% of the corrosion defects that we have excavated to date on the lap-welded portions of pipe have been reconditioned. Some of the deeper defects have been puddle welded, the lesser defects have been cleaned, blasted and re-coated over, which would be the repair method today."

In its special permit application, EMPCo outlined a program to: hydrostatically test sections of the 12.75-inch pipelines, approximately 70.83 miles of pipeline, of which some segments do not have a documented hydrostatic test in accordance with 49 CFR Part 195 requirements; data integration; obtain a metallurgical report on a section of cut-out pipe to test for mechanical and chemical properties of the pipe; develop a program to test puddle welds on the pipe; and conduct close interval surveys and direct current voltage gradient (DCVG) surveys; including a timeframe for proposed testing and investigation efforts.

EMPCo's special permit application states that the following anomalies are in the pipelines:

- 12.75-inch South Bend to New Iberia Pipeline

- Dents (ranging from 2.0% to 4.5%) 486 (230 due to tool tolerance)
- Metal Loss (ranging from 50% to 65%) 121 (112 due to tool tolerance)

- 12.75-inch New Iberia to Sunset Pipeline
  - Dents (ranging from 2.0% to 4.5%) 28
  - Metal Loss (ranging from 50% to 65%) 83 (4 due to tool tolerance)

EMPCo states that New Iberia to Sunset Pipeline will be reassessed by in-line inspection (ILI) tool by November 2011. A signal to signal comparison will be completed using the baseline and reassessment data sets. The indications listed for the 12.75-inch New Iberia to Sunset Pipeline above is baseline assessment data. EMPCo plans to further refine the data after reassessment of the New Iberia to Sunset Pipeline with a signal to signal analysis and EMPCo's proposed modified repair criteria. EMPCO plans to complete this review by May 2012.

Public Notice:

On April 15, 2011, PHMSA posted a notice of this special permit request in the Federal Register (76 FR 21423). The request letter, Federal Register notice, and all other pertinent documents are available for review in Docket No. PHMSA-2011-0056 in the Federal Docket Management System (FDMS) located on the internet at www.Regulations.gov. PHMSA did not receive any comments for or against this special permit request as a result of this notice.

Analysis:

Background:

EMPCo previously submitted a special permit application for *special segments 1 and 2* (PHMSA-2007-27120 and PHMSA-2007-29033). PHMSA denied that request on August 18, 2010, due to lack of technical detail. This denial letter can be reviewed at www.Regulations.gov. The denial letter stated the following:

> "PHMSA is denying both of these special permit applications because they remain incomplete. PHMSA has requested information on the measures EMPCo would take as an alternative to compliance with the regulation. However, EMPCo has not submitted this information as required by 49 CFR § 190.341(b)(5). Specifically, EMPCo has not indicated the criteria it would use

when repairing anomalies detected by In-Line Inspection (ILI) tools."

Threshold Requirements:

The Federal pipeline safety regulations in 49 CFR § 195.452(h) require hazardous liquid pipeline operators to:

(h) *What actions must an operator take to address integrity issues?*

(1) *General requirements.* An operator must take prompt action to address all anomalous conditions that the operator discovers through the integrity assessment or information analysis. In addressing all conditions, an operator must evaluate all anomalous conditions and remediate those that could reduce a pipeline's integrity. An operator must be able to demonstrate that the remediation of the condition will ensure that the condition is unlikely to pose a threat to the long-term integrity of the pipeline. A reduction in operating pressure cannot exceed 365 days without an operator taking further remedial action to ensure the safety of the pipeline. An operator must comply with §195.422 when making a repair.

(ii) 60-day conditions. Except for conditions listed in paragraph (h)(4)(i) of this section, an operator must schedule evaluation and remediation of the following conditions within 60 days of discovery of condition.

(A) A dent located on the top of the pipeline (above the 4 and 8 o'clock positions) with a depth greater than 3% of the pipeline diameter (greater than 0.250 inches in depth for a pipeline diameter less than Nominal Pipe Size (NPS) 12).

(iii) 180-day conditions. Except for conditions listed in paragraph (h)(4)(i) or (ii) of this section, an operator must schedule evaluation and remediation of the following within 180 days of discovery of the condition:

(A) A dent with a depth greater than 2% of the pipeline's diameter (0.250 inches in depth for a pipeline diameter less than NPS 12) that affects pipe curvature at a girth weld or a longitudinal seam weld.

(B) A dent located on the top of the pipeline (above 4 and 8 o'clock position) with a depth greater than 2% of the pipeline's diameter (0.250 inches in depth for a pipeline diameter less than NPS 12).

(C) A dent located on the bottom of the pipeline with a depth greater than 6% of the pipeline's diameter.

(D) A calculation of the remaining strength of the pipe shows an operating pressure that is less than the current established maximum operating pressure at the location of the anomaly. Suitable remaining strength calculation methods include, but are not limited to, ASME/ANSI B31G ("Manual for Determining the Remaining Strength of Corroded Pipelines" (1991)) or AGA Pipeline Research Committee Project PR-3-805 ("A Modified Criterion for Evaluating the Remaining Strength of Corroded Pipe" (December 1989)). These documents are available at the addresses listed in §195.3.

(E) An area of general corrosion with a predicted metal loss greater than 50% of nominal wall.
(F) Predicted metal loss greater than 50% of nominal wall that is located at a crossing of another pipeline, or is in an area with widespread circumferential corrosion, or is in an area that could affect a girth weld.

EMPCo's Special Permit Application:

EMPCo seeks a special permit that would allow EMPCo to continue to operate the pipelines at their current maximum operating pressure (MOP) of 394 pounds per square inch gauge (psig) for the 12.75-inch South Bend to New Iberia Pipeline and 378 psig for the 12.75-inch New Iberia to Sunset Pipeline. Both pipelines had higher original MOPs in 2005 that were reduced to 80% of the actual MOP recorded 2-months prior to the in-line tool runs.

In the December 16, 2010, special permit application, as supplemented on March 2, 2011, EMPCo gave criteria to evaluate anomalies in place of the existing requirements in 49 CFR § 195.452(h). However, EMPCo did not submit sufficient technical justification for the dent and metal loss anomaly repair criteria. There was not sufficient test documentation of how the proposed lower threshold repair criterion for dents, metal loss and puddle welds for high consequence areas are justified.

After receipt of EMPCo's December 16, 2010, special permit application, PHMSA met with EMPCo on January 24, 2011, at PHMSA's Southwest Region office located in Houston, Texas. As discussed during the meeting, PHMSA had the following integrity concerns and requested technical information/justification on the following matters to fully consider this special permit application submitted by EMPCo.

Specifically, on February 16, 2011, PHMSA requested the following information in order to fully review EMPCo's special permit application:

- Hydrostatic test details and at a test pressure to ensure lap-welded and low frequency ERW pipe is not a future integrity risk. Please review PHMSA's Advisory Bulletin – ADB-11-01
    - If EMPCo does not have valid hydrostatic test documentation the pipeline would need to be tested to confirm longitudinal seam integrity.

- EMPCo's special permit application, Attachment 5 – Modified Criteria - Flow Charts – Dents and Metal Loss, shows in chart detail what EMPCo is proposing to conduct in its Integrity Management and O&M Plans to meet § 195.452(h) in future integrity management inspections and excavations.
    - EMPCo does not have technical justification on how 65% pipe wall loss is appropriate when § 195.452(h) requires remediation of all wall loss anomalies greater than 50%.
        - How was it determined that wall loss anomalies less than 65% are due to puddle welds.
        - PHMSA needs documentation of how EMPCo determined existing puddle welds were not an issue. This determination should include puddle weld procedures and/or metallurgical results, how ILI logs were evaluated, how future ILI log will be evaluated, excavation details used to determine results, and metallurgical test results of cut-outs in the pipeline for the full scale of wall loss anomalies above 50% wall loss (include tests at different wall loss percentages). These details would need be of a sufficient quantity (10% of total) to justify the SP application.
        - EMPCo submitted ILI identified anomalies requiring remediation from the South Bend to New Iberia segment (316 anomalies found and 101 remediated) based upon a 12/17/2007 table. The New Iberia to Sunset segment (230 anomalies found by ILI and 82 remediated) based upon a 01/9/2008 table. There was no new data (ILI logs, findings, significant cut-outs, puddle weld identification from ILI logs and metallurgical evaluations of cut-out puddle welds) from the denied special permit application that PHMSA could find in the documents. There was reference in the document to a 2009 Rosen ILI tool run, but no data that we could find and technical detail to warrant EMPCo to not comply with 49 CFR § 195.452 integrity management requirements.

- EMPCo does not have sufficient technical justification to warrant the re-writing of the dent criteria in § 195.452(h). This criterion was vetted with industry and the public prior to being adopted in 49 CFR Part 195. What is the technical justification of this reduction of code requirements for such a large quantity of dents?
  - EMPCo submitted a dent study performed by Stress Engineering on November 18, 2010, that stated that the dent analysis did not include prior service history and was not based upon actual full scale test data of actual removed pipe with dents. Stress Engineering in their report suggested to gain greater confidence and to benchmark stress concentration factors a full scale tests would be required.

    The below technical information was included in the Stress Engineering dent analysis report to EMPCo dated November 10, 2010:

    - Results indicate that the most severe remaining dent anomalies have a fatigue limited life of 240 years (301 years from installation);
    - 5 dents were evaluated by Stress Engineering;
    - No consideration for cracking in or near the dents, then presence of cracks could greatly reduce the remaining life of a dent;
    - It is assumed that dents are truly plain dents and that no interaction with longitudinal seam or girth welds exists;
    - No consideration of prior cyclic pressure service has been made;
    - Did not include prior service history and was not based upon actual full scale test data of actual removed pipe with dents. Stress Engineering suggested in their report to gain greater confidence and to benchmark stress concentration factors a full scale test would be required; and
    - Recommended EMPCo excavate at least two or more severe dents and have them inspected for cracks, and conduct full scale testing of actual pipe material removed from service.

- EMPCo would need to develop substantial preventive and mitigation (P&M) measures for these pipelines, such as:

- Specific identification of anomalies to perform metallurgical studies – for special permit (SP) application and for future ILI tool results and excavation results.
- ILI and reassessment studies that will be performed for SP application and for future ILI tool results and excavation results.
- Plans and performance measures for performing close interval surveys (CIS) for SP application and on an on-going basis with future ILI tool runs.
- Plans and performance measures and intervals for performing DCVG or ACVG surveys to find coating that may be inadequate or shielding to cathodic protection.
- What tests have been and will be conducted to qualify pipe mechanical, chemical, and wall thickness properties to document the pipe type?
- What depth of cover surveys have been performed and will be conducted in the future to keep the pipeline at a depth to ensure there are no future dent issues from farming or other 3rd party damage due to inadequate depth of cover?
- What will be future pipeline patrol frequencies?

- EMPCo will need a robust data integration process and must submit this process to PHMSA
  - Data integration must include the following information: Pipe diameter, wall thickness, and grade; pipe coating including girth weld coating; maximum operating pressure (MOP); high consequence areas (HCAs); hydrostatic test pressure including any test failures; any in-service ruptures or leaks; in-line inspection (ILI) surveys including high resolution MFL, geometry tool, and deformation tools; close interval survey (CIS) surveys; depth of cover surveys; rectifier readings; test point survey readings; AC/DC interference surveys; pipe coating surveys; pipe coating and anomaly evaluations from pipe excavations; stress corrosion cracking (SCC) excavations and findings; and pipe exposures from encroachments. Data integration must be outlined on a single pipeline route sheet (scale of 1-inch = 500-feet on "D" size drawings),

with parallel sections for each integrity category and aerial photography (recent, within 12 months of filing).

PHMSA stated in its February 16, 2011, correspondence to EMPCo, that PHMSA did not believe that EMPCo had submitted sufficient technical information as required by 49 CFR § 190.341(b)(5) to show mitigation of safety and environmental risks in the following integrity areas: future preventative and mitigative (P&M) measures, ILI log review – now and future, determination that puddle welds are not a integrity issue, anomaly metal loss and dent repair criteria, lack of adequate hydrostatic test documentation on lap welded pipe to mitigate safety risks, increased surveys and procedures to mitigate safety risks – patrol, coating surveys, cathodic protection surveys, and pipe depth of cover.

PHMSA requested this information by March 3, 2011. Exxon was also notified that the Special Permit application did not relieve EMPCo from its obligations under 49 CFR Part 195.

On March 2, 2011, EMPCo filed a supplemental application outlining proposed testing and investigative efforts for the *special permit segments* with proposed completion dates as follows:

	March 2, 2011 Letter – Completion Dates
• **Hydrostatic Testing**	
o South Bend to New Iberia Pipeline	To be completed by July 31, 2011[1]
o New Iberia to Sunset Pipeline	To be completed by July 31, 2011
• **Dent Fatigue Analysis**	
o South Bend to New Iberia Pipeline	Completed
o New Iberia to Sunset Pipeline	To be completed by May 2012

[1]PHMSA received notification from ExxonMobil on August 26, 2011, informing that South Bend to New Iberia and New Iberia to Sunset Pipelines hydrostatic test programs were completed as noted: "Section 1 was a hydrotest from South Bend Station to the Intracoastal Waterway. This segment was successfully tested to a pressure of 737 psi. Section 2 was a hydrotest from the Intracoastal Waterway to New Iberia Station. We experienced 3 hydrotest failures in this section. All failure locations were replaced with new pipe. The cut-outs were tested and the metallurgical results revealed the failure mechanism for all 3 to be a lap welded seam manufacturing defect known as "burned metal". A successful test was completed at a pressure of 699 psi. Section 3 was a hydrotest from New Iberia Station to Sunset Station. This segment was successfully tested to a pressure of 710 psi on August 9, 2011. EMPCo plans to re-start the pipeline beginning September 12, 2011, while maintaining the reduced operating pressures of 394 psi on South Bend to New Iberia and 378 psi on New Iberia to Sunset segments (MOPs previously established as outlined in the Special Permit Applications). In addition, EMPCo plans to run re-assessment ILI tools, including a puddle weld detection tool, in the New Iberia to Sunset segment before year end 2011. Close Interval Surveys, Depth of Cover Surveys and DCVG Surveys are scheduled to begin on both segments in 4Q11."

  - To be completed on any pipe removed from reconditioned segments in the future
- **Tensile Testing**
  - South Bend to New Iberia Pipeline — Completed
  - New Iberia to Sunset Pipeline — To be completed by May 2012
  - To be completed on any pipe removed from reconditioned segments in the future
- **DCVG Survey and Close Interval Survey**
  - South Bend to New Iberia Pipeline — Completed by December 31, 2011
  - New Iberia to Sunset Pipeline — Completed by December 31, 2011
- **Puddle Weld Detection Survey**
  - South Bend to New Iberia Pipeline — Completed by July 31, 2014
  - New Iberia to Sunset Pipeline — Completed by November 30, 2011
- **Depth of Cover Survey**
  - South Bend to New Iberia Pipeline — Complete on a 5-year frequency
  - New Iberia to Sunset Pipeline — Complete on a 5-year frequency

Operational Integrity Compliance:

PHMSA reviews special permit requests to ensure that integrity threats to the pipeline are required to be in the operator's operations and management plan (O&M Plan) to provide a systematic program to review and remediate the pipeline for safety concerns. Additional operational integrity review and remediation requirements will be required by this special permit, if granted, for these special permit segments. The pipeline operational integrity requirements are to ensure that the operator has an ongoing program to locate and remediate safety threats. These threats to integrity and safety include the pipe coating quality, cathodic protection effectiveness, operations damage prevention program for third party damage, weld seam and girth weld integrity, anomalies in the pipe steel, hydrostatic testing, depth of cover, and material and structures either along or near the pipeline that could cause the cathodic protection system to be ineffective.

PHMSA will carefully design a comprehensive set of conditions that EMPCo would be required to meet in order for the special permit if granted. **Among other integrity management assessments, a special permit if granted would include robust conditions such as:**

- A close interval survey (CIS) to determine the effectiveness of the cathodic protection system must be performed within the *special permit segments 1 and 2* on a maximum 5-year basis including all areas with inadequate cathodic protection must be remediated.
- A coating survey such as DCVG to determine the quality of the pipe coating must be conducted and in-effective coating areas must be remediated.
- Stress corrosion cracking (SCC) surveys on the pipeline will be required to ensure that the pipe steel does not contain cracks due to the effects of high and near neutral pH SCC.
- The latest methods of damage prevention must be incorporated by the operator, such as the best practices of the Common Ground Alliance (CGA) within the *special permit segments1 and 2.*
- Depth of cover surveys and remediation of inadequate soil cover would be required to meet 49 CFR § 195.248 for agricultural areas, road beds, drainage ditches, and water bodies.
- Interference currents from electric transmission lines and other interfering structures in the *special permit segments 1 and 2* must be identified, controlled and mitigated by conducting surveys and installing grounding systems where required. Interference surveys of the pipeline segments would be required at a maximum 5-year interval.
- An analysis of pipeline field coated girth welds that could have shielding coatings that may cause corrosion of the pipe steel must be undertaken in the *special permit segments1 and 2.* In-line inspection logs that indicate 30% corrosion indications on shielding or unknown coatings must be exposed and evaluated.
- Anomalies, pipe metal loss and dents, in the pipeline must be repaired, based upon the special permit repair criteria.
- Girth welds in the *special permit segments 1 and 2* must have been inspected to a non destructive test (NDT) plan during construction, or a quality review and remediation program must be implemented by the pipeline operator.
- All shorted casing at road crossings and railroad crossings in the *special permit segments 1 and 2* (either metallic or electrolytic) must be cleared to prevent corrosion.
- Pipeline longitudinal seams within the *special permit segments 1 and 2* must have an engineering analysis to determine if there are any threats and remediated, if integrity threats are determined.

- Periodic close interval surveys and in-line inspection (ILI) inspections (pipeline internal surveys to determine corrosion in the pipeline) must be performed on the *special permit segments 1 and 2* at the applicable integrity management reassessment intervals as required in 49 CFR § 195.452.
- ILI inspections must show how they detect puddle welds on a consistent basis and must be conducted through the *special permit segments 1 and 2* prior to a special permit application. ILI findings must be remediated in accordance with the 49 CFR § 195.452 and the special permit conditions.
- ILI data must be confirmed through excavations, unity plots and data integration. ILI data must be repeatable from each ILI Tool, future ILI Tool runs showing defects becoming smaller must be confirmed through excavation and unity charts. (Note: PHMSA met with EMPCo on January 24, 2011, to review ILI Tool data to confirm repeatability from past ILI Tool runs. EMPCo could not confirm ILI Tool repeatability during this meeting based upon past compared to new data.)
- Data integration for integrity management threats must include the following information: Pipe diameter, wall thickness, grade, and seam type; pipe coating including girth weld coating; maximum operating pressure (MOP); stress level; high consequence areas (HCAs) (including boundaries on aerial photography); hydrostatic test pressure including any known test failures; casings; any in-service ruptures or leaks; in-line inspection (ILI) survey results including HR-MFL, HR-geometry/caliper or deformation tools; close interval survey (CIS) surveys – all; depth of cover surveys; rectifier readings – past 5 years; test point survey readings – past 5 years; AC/DC interference surveys; pipe coating surveys; pipe coating and anomaly evaluations from pipe excavations; stress corrosion cracking (SCC) excavations and findings; and pipe exposures from encroachments. Data integration must be outlined on pipeline route sheets (scale of 1-inch = 100 up to 500-feet on "D (24"x36") or E (36"x42")" size drawings or similar size drawings), with parallel sections for each integrity category and recent aerial photography (recent photography, within 24 months of special permit filing). Data integration must be updated on a continuing basis and with at least a semi-annual review of integrity issues to be remediated.

- All pipe not prior hydrostatically tested with documentation in accordance with 49 CFR Part 195 must be tested.
- Documentation of pipe strength on reconditioned pipe must include metallurgical, mechanical, and chemical properties based upon 49 CFR § 195.106(b) for frequency and tensile strength.
- Documentation of metallurgical tests on all hydrostatic test and in-service failures and leaks on lap-welded pipe in *special permit segments 1 and 2* and submittal of P&M measures based upon test results.
- Metal loss and dent criterion must be based upon technical justifications that include metallurgical, mechanical, and chemical properties test results on a minimum of 10% of metal loss, puddle welds, and dents based upon severity; 49 CFR § 195.106(b) for tensile strength and wall thickness test frequency; and include MOP; repair factors; seam conditions; seam de-rating factors; remaining pipe wall thickness, and pipe grade.
- Puddle welds must include non-destructive examination (NDE) to show that puddle welds have not caused cracking in the pipe steel for each anomaly excavation.

The EMPCo special permit application is based upon changing the repair threshold for top of pipeline dents from 3% to 4.5% for 60-day repairs; girth weld and longitudinal seam weld dent repairs from 2% to 4.5% for 180-day repairs; top of pipeline dents from 2% to 4.5% for 180-day repairs; general corrosion metal loss anomaly repairs from 50% to 65% wall loss; and in the crossing of another pipeline, or in an area of widespread circumferential corrosion, or in an area that could affect a girth weld metal loss anomaly repairs from 50% to 65% wall loss.

EMPCo's supplemental application of March 2, 2011, as reviewed above, does not take into account the following 49 CFR Part 195 requirements in technical reviews:

- § 195.106 – for the number of tests to confirm pipe properties, wall thickness, and condition for pipe steel; and a minimum of 10% of metal loss anomalies, puddle welds, and dents based upon severity;
- § 195.452(h) – integrity management timing intervals of completing repairs of dents and metal loss anomalies that have 60-day or 180-day requirements. PHMSA's denial letter of the previous special permit applications, PHMSA-2007-27120 and PHMSA-2007-

29033, was dated August 18, 2010. EMPCo should have completed the repair of all 60-day conditions by October 23, 2010, (7-days for letter receipt plus 60 days) and all 180-day conditions by February 20, 2011. In EMPCo's supplemental letter of March 2, 2011, EMPCo did not take into account the timing requirements for repairs, under § 195.452(h). Dent repairs are not scheduled to be completed until May 2012 and a metal loss repair schedule was not submitted. EMPCo submitted completion schedules for determining puddle weld properties by July 2014 and pipe properties completion schedule by May 2012.

- Subpart E – Pressure Testing –
    - § 195.302 – General Requirements and § 195.303 – Risk Based alternative to pressure testing older hazardous liquid and carbon dioxide pipelines
        - EMPCo did not have documentation to meet Subpart E for all of *special permit segments 1 and 2.*
        - Note: On August 26, 2011, EMPCo submitted to PHMSA that *special permit segments 1 and* 2 had been hydrostatically tested to meet 49 CFR Part 195, Subpart E test requirements, see footnote 1 on page 11 of this document.

PHMSA understands that these pipeline *special permit segments 1 and 2* are not consistent with safety and need *additional remediation and repairs*: pressure testing, pipe property tests, puddle weld property tests, direct current voltage gradient (DCVG) and close interval surveys, and depth of cover surveys along the pipeline route due to many areas of insufficient soil cover. These *additional remediation and repairs* are needed whether a special permit with conditions is or is not granted.

The application and supplemental information submitted to PHMSA does not include any technical justifications including mechanical properties tests of anomalous conditions (dents and metal loss) that were previously repaired by puddle welds during reconditioning activities that were performed circa 1951, prior to the current pipeline installation. EMPCo has not submitted sufficient technical justification to prove that usage of in-line inspection tools to document puddle welds is repeatable from each integrity management inspection interval. EMPCo has not submitted sufficient technical justification in the application to show that raising the hazardous

liquid integrity management anomaly repair criteria is not inconsistent with safety and protecting the environment in high consequence areas.

The Hazardous Liquid Pipeline Integrity Management Rule in 49 CFR § 195.452 went through rigorous public, operator, and PHMSA technical reviews during the rulemaking process. PHMSA would need sufficient technical details that demonstrate an equivalent level of safety in order to issue a special permit overturning these code requirements.

Findings:

Based on the information submitted by EMPCo and PHMSA's analysis of the technical, operational, integrity management, and safety issues, PHMSA finds that granting this special permit to EMPCo to operate reconditioned lap welded seam pipe segments of the South Bend to New Iberia Pipeline and New Iberia to Sunset Pipeline, at the current MOPs of 394 and 378 psig with reduced integrity management repair criteria for dents and metal loss anomalies in high consequence areas would be inconsistent with pipeline safety.

EMPCo has not submitted sufficient technical justification as outlined in PHMSA's communication to EMPCo dated February 16, 2011, for PHMSA to issue a special permit modifying pipe metal loss and dent repair criteria. Therefore, EMPCo must comply with 49 CFR § 195.452(h)(4)(ii)(A) and (iii)(A, B, E, and F) for high consequence area metal loss and dent repair criterion and repair timing intervals.

Should EMPCo choose to file a new request for a special permit for modifying the metal loss and dent repair and timing criteria required in 49 CFR § 195.452(h) for high consequence areas, the special permit application should at a minimum include the technical details outlined in this document, including but not limited to, the items listed on pages 7-11 and 12-15 in this document.

Completed in Washington DC on: SEP 3 0 2011

Prepared by: Engineering and Research Division