



September 22, 2015

Mr. Chris Hoidal, P.E.
Director, Western Region
Pipeline and Hazardous Materials Safety Administration
12300 W. Dakota Ave, Suite 110
Lakewood, Colorado 80228

Re: Response to Notice of Probable Violation and Proposed Civil Penalty
CPF 5-2015-7001

Dear Mr. Hoidal,

Freeport-McMoRan Oil & Gas (FM O&G) has reviewed the NOTICE OF PROBABLE VIOLATION and PROPOSED CIVIL PENALTY (PCP), CPF No. 5-2015-7001, dated August 21, 2015 (NOPV). The NOPV is a result of a pipeline record inspection on March 9-12, 2015 for the 20 inch pipeline that transports crude oil from Platform Irene to the Lompoc Oil and Gas Plant in Santa Barbara County, California. We were cited for exceeding the 180 day deadline to receive sufficient information about an anomalous condition after an integrity assessment was complete and we submit the following explanation of why we believe the NOPV and PCP are unwarranted.

The NOPV states that we did not obtain sufficient information about an anomalous condition on the crude oil pipeline to determine whether the condition presents a potential threat to the integrity of the pipeline within 180 days in accordance with Section 195.452 (h) (2). This section states that *"[a]n operator must promptly, but no later than 180 days after an integrity assessment, obtain sufficient information about a condition to make that determination, unless the operator can demonstrate that the 180 day period is impracticable."* (emphasis added).

FM O&G Response:

While FM O&G did not receive sufficient information within 180 days after the integrity assessment was completed, we believe the following explanation and discussion demonstrates that the 180 day period was impracticable to meet.

The Pt. Pedernales 20" oil pipeline is inspected annually by smart pigs. Up until 2011, the inspections were completed using only magnetic flux leakage (MFL) technology. MFL is a standard type of high resolution inspection. In the last few years of its use (i.e. ~ 2009, 2010) we noticed an unexplained increase in wall loss, which we tried to mitigate through changes to the pigging and corrosion inhibitor programs. We had limited success. In 2011, we determined that, although MFL technology normally has ability to differentiate between internal and external corrosion, in situations where both internal and external wall

loss have occurred at the same location the MLF tool was reporting internal corrosion only. FM O&G's pipeline integrity team consulted with both smart pig vendors T.D. Williamson (TDW) and Rosen U.S.A. about ways to deal with this complex situation. TDW and Rosen have both provided MFL smart pig inspections for us and their expertise was utilized in determining a sound approach to mitigate this smart pig reporting problem. The team determined that the best solution was to run multiple tools: MFL, UT (ultrasound), and SIC (shallow internal corrosion, alternate form of MFL). As a result, data from all three tools then had to be evaluated and combined into one report to differentiate and quantify how much wall loss was internal or external when located at the same location.

This was the first time that the inspection company (Rosen) had done this type of analysis. The consolidated report was notably more complex because analysts had to manually combine data from three technologies into one report. This resulted in additional time requirements to prepare the report. We have worked with the inspection company to try to improve the report preparation timing. However, due to the dynamics of the pipeline, the running of multiple smart pigs every year and the manual compiling of a tremendous volume of data, we have found it is impracticable to produce a comprehensive report in the allotted timeframe (see attached letter from Rosen).

FM O&G believes first and foremost, that for our particular installation and pipeline service the use of the three pipeline pigging technologies provides the most comprehensive information about the integrity of the pipeline, and that the corresponding additional time required to complete the data analysis is warranted.

We believe that it is also relevant to emphasize that FM O&G conducts these pigging operations annually, more frequently than the five year regulatory requirement, and this greater frequency of inspections helps mitigate the additional time to develop the report. We will continue to work with Rosen to improve the assessment report turnaround time. If the 180 day deadline remains infeasible we will submit a request to the Information Resources Manager asking for a 90-day extension.

Should you have any questions please contact me (805)-934-8220 or Dale Rydberg at (805) 934-8213.

Sincerely,



David Rose
Manager
Environmental, Health and Safety

Attachment

ROSEN USA, Inc.
14120 Interdrive East
Houston, TX 77032

Houston, 21-Sep-2015

Impracticality of 180 days reporting time for Freeport-MacMoRan pipeline 20" Platform Irene to LOGP for metal loss analysis

To whom it may concern,

The purpose of this letter is to outline the impracticality of analyzing and reporting the metal loss in-line inspection data for the 20" Platform to LOGP pipeline within 180 days. The letter explains why the 180 days were exceeded.

When following ROSEN standards for reporting, ultrasonic metal loss inspections are typically submitted within the timeframe of 90 days. However, for pipelines affected by extensive and complex corrosion reporting times can be delayed as a result of the emphasis on not compromising the quality of analysis as it relates to classifying and/or sizing reported anomalies in extents of metal loss.

For the subject pipeline the following measures were agreed with the operator to cope with the extent and complexity of the corrosion:

- Additional efforts in data analysis due to extremely high amount of indications
- Deviation from the ROSEN ultrasonic standard reporting method requiring for more time than typically required
- Integration of additional metal loss detection technologies, namely magnetic flux leakage (MFL) and eddy current based shallow internal corrosion detection technology (IEC) to improve classification and sizing accuracies.

ROSEN's standard ultrasonic deliverable is based on providing the deepest point based on wall thickness, length, and the width of a group of anomalies in an area of complex corrosion. The clustering resulting in a call box and sizing of metal loss anomalies is a manual process for which effort is dependent on line condition. It should be noted this is the most time-consuming task in the analysis process. Figure 1 below illustrates a standard UT call box.

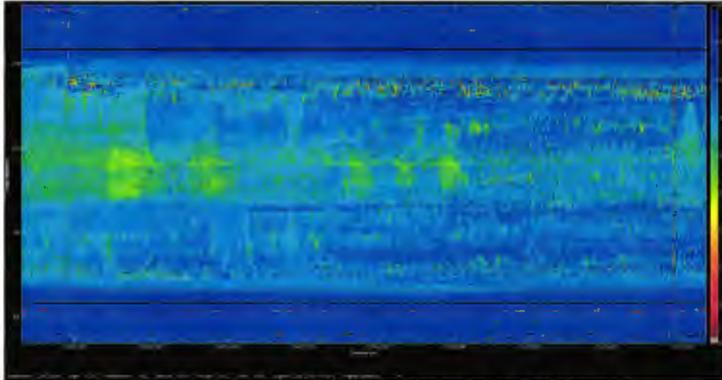


Figure 1: Ultrasonic data – one call box clustering all metal loss anomalies in a single joint.

Given the continuous nature of the metal loss corrosion in 20" Platform Irene to LOGP pipeline, as a result of clustering call boxes (length x width x depth) can often cover an entire joint. The deepest point in the joint-length box may be surrounded by other features that are equal to or less than that depth. Knowing only the location of the deepest anomaly per joint can pose significant challenges for processes such as corrosion growth assessments. As a result, ROSEN was asked to deviate from the standard deliverable in 2013 to provide more information to Freeport-McMoRan so they would be better able to account for changes occurring in the pipeline.

The deliverable provided in 2014 included the standard deliverable call box plus any additional call box measuring greater than or equal to 30% depth within the joint, which was the same deliverable provided in 2013. This is depicted in Figure 2. The additional call boxes resulted in an increase in effort and therefore an increase in reporting time. The screenshot below illustrates the information provided in the 2014 deliverable.

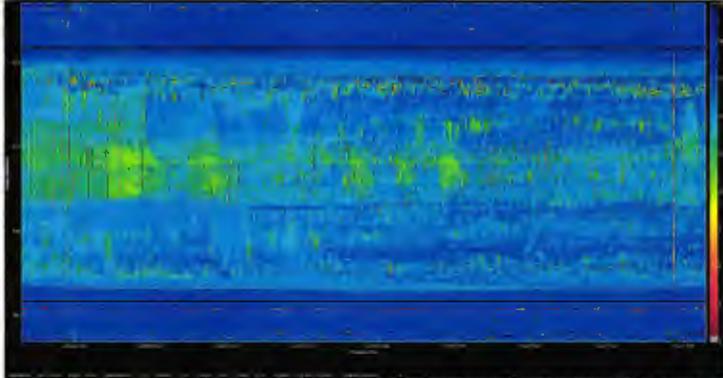


Figure 2: Ultrasonic data – multiple call boxes clustering metal loss anomalies containing a 30% deep spot individually

The 2014 deliverable reported 10,292 individual calls boxes for the UT tool, which represents a 37% increase from the 2013 report (note that this is not necessarily an increase in actual corrosion features but due to the change in analysis approach). Each of the UT call boxes in average contains 25 individual corrosion indications of which the deepest spot was to identified and sized. Therefore the total amount of corrosion indications was 257,300.

The increase in anomalies reported means additional reporting time was necessary. A brief history of the reporting on the line segment can be found below:

- 2013 Run Date July 16, 2013
Issue Date February 13, 2014
Timeframe 212 days
Modified Deliverable

- 2014 Run Date August 30, 2014
Issue Date May 21, 2015
Timeframe 264 days
Modified Deliverable

In addition to the high efforts in ultrasonic data analysis the integration of above mentioned combined data analysis further contributed to exceeding the 180 days. It is reasonable to apply multiple technologies to increase the confidence in classification and sizing especially for complex corrosion as present in the subject pipeline.

The integration of multiple tool technologies can pose a challenge to meeting traditional reporting timeframes where the amount of indications is high and the corrosion pattern is complex. The reason for this is the fact that a combined analysis today is still a semi-automated process requiring for substantial manual efforts.

Each of the above factors contributed to the reporting delay for the 20" Platform Irene to LOGP crude oil line segment, for which traditional reporting windows were not met.

To conclude, the condition of the 20" Platform Irene to LOGP oil line segment combined with multiple-tool inspections and modified deliverables resulted in final reporting timeframes exceeding 180 days. It should be mentioned that the preliminary reports met DOT requirements except for pressure calculations. Freeport-McMoRan and ROSEN have been collaborating to establish a process that reduces reporting timeframes but maintains the expected quality standard.

Kind regards,



Markus Ginten
Area Manager