

PI-03-0100

U.S. Department of Transportation  
Research and Special Programs Administration  
400 Seventh Street, S.W.  
Washington, D.C. 20590

February 14, 2003

Mr. Shan Bhattacharya, P.E.  
Vice President, Engineering and Planning  
Pacific Gas and Electric Company  
123 Mission Street, Room 1521  
San Francisco, CA 94105

Dear Mr. Bhattacharya:

This is in response to your request of July 29, 2002, for an interpretation of the gas pipeline atmospheric corrosion requirements at 49 CFR § 192.481. You ask whether it is the intent of this section to require operators to monitor for atmospheric corrosion "in areas that are not subject to atmospheric corrosion."

Section 192.481 states that operators shall evaluate each onshore pipeline that is exposed to the atmosphere at least every three years and take remedial action whenever necessary to maintain protection against atmospheric corrosion. This section does not exempt pipelines that are in areas initially determined to have a noncorrosive atmosphere under § 192.479, but rather requires periodic evaluation of all pipelines exposed to the atmosphere.

Corrosion can, and does, occur in areas that, in general, have a noncorrosive atmosphere. Local moisture conditions, chemicals in the environment, and air-soil interfaces may result in severe corrosion in areas where corrosion is not expected. Periodic evaluation is necessary to identify and remediate these conditions for every pipeline facility exposed to the atmosphere. This requires an investigation of the conditions that exist in the immediate area of an exposed pipeline. A general or regional determination that a corrosive atmosphere does not exist is insufficient to meet this requirement.

Pacific Gas and Electric (PGE) appears to be basing its determination of "zones or areas of its service territory where a corrosive atmosphere exists" solely on regional moisture conditions. If that is the case, it has not considered all conditions that can lead to corrosion. Furthermore, § 192.479 does not establish a two-class system for the periodic corrosion inspections—one for pipelines in areas documented to be noncorrosive and one for areas subject to corrosion. Even for areas with a generally noncorrosive atmosphere, periodic evaluations are required to ensure that local conditions are not causing atmospheric corrosion.

Therefore, all pipeline facilities exposed to the atmosphere must be periodically monitored for evidence of atmospheric corrosion. A general determination of broad zones of noncorrosive atmospheric conditions based on a sample survey may be useful, but does not fully meet the intent of § 192.481, which requires periodic evaluation of each pipeline exposed to the atmosphere. Inspection data gathered during routine service calls, patrols, and five-year leak surveys can be used to meet this requirement, provided personnel performing these tasks are qualified to inspect for corrosion.

If you have any further questions about the pipeline safety regulations, please contact me at (202) 366-4565.

Sincerely,  
Richard D. Huriaux,  
P.E. Manager, Regulations  
Office of Pipeline Safety

Pacific Gas and Electric Company  
123 Mission Street, Room 1521  
San Francisco, CA 94105

July 29, 2002

Mr. Richard D. Huriaux  
Office of Pipeline Safety  
Research and Special Programs Administration  
U.S. Department of Transportation,  
400 Seventh Street, S.W., Rm. 7128  
Washington D.C. 20590-0001

Dear Mr. Huriaux:

Subject: Interpretation of 192.481 Atmospheric corrosion control: Monitoring

This letter is to request an interpretation of the intent of 49 CFR Section 192.481. Section 192.481 is summarized as: "After meeting the requirements of Sections 192.479 (a) and (b), each operator shall, at intervals not exceeding three years ... reevaluate each pipeline that is exposed to the atmosphere and take remedial action whenever necessary to maintain protection against atmospheric corrosion."

Is it the intent of Section 192.481 to require operators to monitor all above ground pipelines, including service risers, for atmospheric corrosion, or only those above ground pipelines in areas subject to atmospheric corrosion as established in Sections 192.479 (a) and (b)?

In other words, is it the intent of the code to require operators to monitor for atmospheric corrosion in areas that are not subject to atmospheric corrosion?

Sections 192.479 (a) and (b) clearly makes a distinction between areas subject to atmospheric corrosion and those that are not. Section 192.479 (a) allows operators not to comply with that paragraph if it can demonstrate by test, etc., that, for certain areas, a corrosive atmosphere does not exist. Section 192.481 starts by saying, "After meeting the requirements of Sections 192.479 (a) and (b)..." Therefore, the "reevaluation" requirement of Section 192.481 would logically refer only to those areas subject to atmospheric corrosion.

Other sections of the code follow this pattern. For example, Section 192.455(f)(1) states that external corrosion control requirements do not apply to electrically isolated, metal alloy fittings in plastic pipelines, if an operator can show by test, etc., that adequate corrosion control is provided by the alloy composition and the fitting is designed to resist localized corrosion pitting. The external corrosion control monitoring requirements of Section 192.465 do not require the operator to reevaluate the adequacy of corrosion control measures on those fittings that the operator determined in Section 192.455 were not subject to external corrosion.

Pacific Gas and Electric Company has determined and established zones or areas of its service territory where a corrosive atmosphere exists. The Company currently monitors all aboveground pipelines located in those areas for indications of atmospheric corrosion, and takes appropriate remedial actions as necessary as required by Section 192.481. It does not seem logical that the code would require operators to monitor for atmospheric corrosion in areas that are not subject to atmospheric corrosion.

If it is the intent of Section 192.481 to require operators to "reevaluate" each pipeline exposed to the atmosphere, including service risers, regardless of whether or not the pipeline is exposed to a corrosive atmosphere, then what does "reevaluate" mean? For example, if the Company were to verify its corrosive atmosphere zones every three years and take remedial action when necessary, would this practice be in compliance with Section 192.481? Pacific Gas and Electric Company would perform this reevaluation by test and investigation through the use of sample sites. The sample sites would be periodically evaluated and the boundaries of the corrosive atmosphere areas would be adjusted accordingly. Additionally, inspection data gathered during routine service calls, patrols, and 5-year leak surveys would be used to evaluate the corrosive area boundaries.

Thank you for your attention to this matter. Please contact Tom Robinson at (415) 9738180 if you have any questions or need additional information.

Sincerely,  
Shan Bhattacharya