

PI-73-0120

December 14, 1973

Mr. T. K. Spalding
Director
Gas Pipeline Safety Division
West Virginia Public Service Commission
Charleston, WV 25305

Dear Mr. Spalding:

In your letter of November 29, 1973, you forwarded questions submitted to you by a local operator. These questions with our comments are as follows:

Question 1

Do the minimum standards require the cathodic protection of the section of a bare, welded transmission line where it crosses a public highway, or makes a parallel encroachment on the right-of-way, if both the transmission line and the highway are in a Class 1 location?

OPS Comment

Regardless of class or location (such as at a highway crossing), a transmission operator must comply with section 192.457(b)(1) which requires cathodic protection in areas in which active corrosion is found. As required by Section 192.457(b), the operator shall determine areas of active corrosion by electrical survey, or where electrical survey is impractical, by the study of corrosion and leak history records, by leak detection survey, or by other means. Specifically, if tests do not indicate the presence of active corrosion at a highway crossing, then cathodic protection is not necessary.

Question 2

On a bare transmission or distribution line do you consider a soil resistivity survey to be an electrical survey, as required by 192.457(b), for determining hot spot protection?

OPS Comment

A soil resistivity survey consists of electrical measurements which are helpful in determining those portions of a pipeline system in which corrosion is more likely to occur than in other portions. Following this survey, an electrical survey, such as pipe-to-soil potential measurements or surface potential measurements, is normally made in areas of low resistivity so that cathodic protection can be provided first in those areas that need it most.

On a transmission pipeline, an electromagnetic survey could be made in lieu of soil resistivity and pipe-to-soil potential surveys.

If an operator plans to cathodically protect an entire portion of bare transmission pipeline or distribution system, a soil resistivity survey is sufficient. If the operator plans to provide cathodic protection only in areas of active corrosion as required by Section 192.457(b), a soil resistivity survey by itself will not pinpoint areas of active corrosion. For this reason, a combination of soil resistivity survey and, for example, pipe-to-soil potential survey is necessary.

I trust this answers your questions. If not, please let us know.

Sincerely,
Joseph C. Caldwell
Director
Office of Pipeline Safety

State of West Virginia
Public Service Commission
Charleston, 25305

November 29, 1973

Mr. Joseph C. Caldwell, Director
Office of Pipeline Safety
Department of Transportation
Washington, D.C. 20590

Dear Sir:

The following questions were submitted to me by a local operator and I will appreciate your answer:

- 1 . Do the minimum standards require the cathodic protection of the section of a bare, welded transmission line where it crosses a public highway, or makes a parallel encroachment on the right-of- way, if both the transmission line and the highway are in a Class 1 location?
- 2 . On a bare transmission or distribution line do you consider a soil resistivity survey to be an electrical survey, as required by 192.457(b), for determining hot spot protection?

Yours very truly,
T.K. Spalding, Director
Gas Pipeline Safety Division