June 23, 1976

Mr. Edward J. Ondak
Program Manager
Transportation Safety Institute
6500 South MacArthur Boulevard
Oklahoma City, Oklahoma 73125

Dear Mr. Ondak:

This responds to your memorandum dated May 24, 1976, in which you asked for a decision concerning the technique of using soil resistivity alone as an electrical survey to determine the areas of active corrosion.

Enclosed is a copy of OPSO Advisory Bulletin No. 76-2, that contains the official OPSO interpretation of the term "electrical survey." Although areas of active corrosion have been shown to correlate highly with soil resistivity, this technique by itself does not fully meet the requirements as set forth in the above interpretation. While the Office of Pipeline Safety Operations permits the use of consultants, it is the operator's responsibility to choose the methodology to meet the requirements of the Federal safety standards.

We trust that this clarifies what OPSO expects in the way of compliance.

Sincerely,

Cesar DeLeon
Acting Director
Office of Pipeline
Safety Operations

Enclosure

MEMORANDUM

May 24, 1976

SUBJECT: Soil Resistivity as Electrical Survey
to Determine Active Corrosion

FROM : Program Manager, Pipeline Safety,
Transportation Safety Institute

TO : Acting Director, Office of Pipeline Safety
Operations, MTP-1

At the 1976 Underground Corrosion Short Course held at the University of West Virginia, a discussion was held with members of the Harco Corporation, a well-known corrosion consulting firm. At that time Harco stated that they presented a program to the Office of Pipeline Safety, as it was then known, in December of 1973, in which they outline two methods to evaluate corrosion activity on bare pipelines.

The March 1974 Advisory Bulletin stated that "a technique was being used called a statistical analysis to determine areas of active corrosion. This method combines pipe to soil potential, soil resistivity, and leak records." The key word here was "combines" which means that more than one of the above mentioned techniques must be used.

Harco Corporation is attempting to utilize a survey consisting solely of soil resistivity. Their method states a probability combined with soil resistivity where a section of pipeline lies in low resistivity soil versus a pipeline in high resistivity soil. They then say that the probability of corrosion is greater for the pipe in low soil than in high soil and they will therefore protect the low soil pipe first by August 1, 1976, completely ignoring the pipe in high soil until some later date.

I don't feel the intent of the law is being met as soil resistivity alone does not determine areas of active corrosion. If a pipeline is under cathodic protection, the soil resistivity does not change. I have been chastised by Harco Corporation for making the above statement as they say OPS approved this technique. I maintain that OPS did not approve this, as it was not stated in the Advisory Bulletin of March 1974.

I am requesting that this matter by investigated and a decision made concerning this technique. My biggest concern is the possibility that operators will get hold of this and begin taking soil resistivity alone. This can never determine active corrosion, only the possibility that corrosion might occur. This would never comply with interpretations brought out by OPSO defining corrosion and how to find it.

Please let me have your thinking on the above so we can better advise operators and State agents on proper techniques.

Edward J. Ondak

November 5, 1975

Mr. Cesar DeLeon, Acting Director
Office of Pipeline Safety
Department of Transportation
400 7th Street, S.W.
Transpoint TES 30 Building
Washington, D.C. 20590

Dear Mr. DeLeon:

At our recent meeting in Washington you commented that I had not submitted a question for sometime. Unfortunately all matters have not been totally resolved and I will, therefore, appreciate an official answer to the following question:

How often must individual anodes be monitored on an unprotected bare transmission or distribution pipeline that has "hot spot" protection, which "hot spot" protection would include the anodes installed in connection with corrosion-leak repair clamps?

Yours very truly,

T. K. Spalding, Director
Gas Pipeline Safety Division