Pipeline PCB Contamination and Remediation Project

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PIPELINE PCB

CONTAMINATION AND REMEDIATION PROJECT

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I INTRODUCTION

In the past, the natural gas transmission industry used lubricating oils containing PCBs in both gas turbines and air compressors to take advantage of these oils' fire retardant properties. Apparently, as a result of the years of operation of gas turbines in gas transmission compressor stations, PCB-laden oil was blown by the compressor seals and distributed into a number of gas pipelines. Similarly, the use of PCB oils in air compressors resulted in contamination of air lines and systems, and eventually soil and ground water at some sites.

As a consequence, Congress, the Environmental Protection Agency and the Federal Energy Regulatory Commission stepped up their oversight of pipeline activities by tightening enforcement and taking a closer look at the removal and abandonment of pipelines. Because EPA has operated under the assumption that a company's entire system is contaminated unless it can prove otherwise, FERC routinely refers all pipeline removal or abandonment proposals to EPA for confirmation that EPA's PCB regulations are being followed by the companies involved.

Unfortunately, these regulations were not developed with pipeline contamination problems in mind. This led to a series of misunderstandings, disagreements and interpretation problems between EPA and the pipeline industry. Consequently, routine pipe replacement and construction projects have been in limbo since 1988, awaiting clear and consistent EPA guidance. Pipeline expansion projects to serve new markets are also jeopardized by this uncertain situation. If pipeline operators are forced to comply with EPA's PCB

regulations as currently interpreted by EPA, costs to the industry could easily exceed $2 billion.

In an effort to comply with the spirit and intent of the PCB regulations while accommodating the unique operations and facilities of the gas pipeline industry, the industry decided to develop and offer to EPA a generic remediation program. If EPA could accept such a program, it would significantly reduce the costs of routine pipeline removal, disposal and abandonment work, as well as provide clear guidance for both the industry and EPA. Preliminary contacts with EPA officials during 1989 revealed an increasing interest on their part in pursuing this strategy.

In order to prepare the best plan possible, the industry decided that a PCB legal expert, experienced in working with EPA's Office of Toxic Substances, should assist in developing and negotiating the generic plan.

This report provides information on the progress to date of negotiations with the EPA for cost effective and reasonable remediation of PCB contamination within the natural gas pipeline industry.

II. Development of an Industry Generic Remediation Program

During late 1989 and early 1990, an industry task group, working with the contractor, evaluated the extent of the PCB problem and developed an industry generic characterization and remediation program and presented it to an EPA task group. The proposed program cannot be included with this report because it is a confidential legal document still under active negotiation with the EPA.

Key to the pipeline portion of the remediation program is the industry's position that the reuse of larger-diameter pipe must be encouraged in order to further the national goal of minimizing waste and reserving the capacity of disposal facilities for appropriate waste materials. In addition, there are substantial economic consequences if pipeline cannot be reused and must be disposed of. Recycled or scrap pipe can return from about $20,000 to more than $65,000 per mile to the pipeline company, depending on the diameter of the pipe. This revenue would be lost if the pipe had to be disposed of. An estimate of current disposal costs indicates that disposal of one mile of pipe in a chemical waste landfill, together with the costs of transportation and taxes, could total over $160,000. When the cost of sampling and the lost recycling revenue are added, the cost of requiring disposal could easily exceed $200,000 per mile for large-diameter pipe. In addition, scarce chemical waste landfill space would be squandered, since a 28-mile segment of 20-inch diameter pipe would represent 5,000 tons of pipe and occupy over 300,000 cubic feet of space.

Since the industry averages about 700 miles per year of pipeline replacement or abandonment, it is imperative that a reasonable, cost-effective program be implemented. In line with this goal, INGAA's proposed program requires EPA to abandon its long-held nonrebuttable presumption that entire pipeline systems are contaminated with PCBs and thus subject to incineration, chemical landfill disposal or demonstrated alternative technology equivalent to these methods. The proposal establishes a less onerous and costly method of characterizing the extent and level of pipe contamination, a means of declassifying pipe for reuse and abandonment in place of pipe in specified locations, and a

procedure for decontaminating pipe not qualifying for immediate reuse or abandonment.

The goal of the air compressor portion of the proposed remediation program is for EPA to modify its spill cleanup policy to take into consideration the unique equipment and operations of the gas transmission industry. Additionally, it would provide a nationwide, uniform policy, in lieu of the current EPA practice of allowing each region to interpret and enforce the spill cleanup policy as it sees fit.

Initial meetings with the EPA task group revealed a recognition that the scope of the problem required special consideration within EPA, but a reluctance to deviate appreciably from the published regulations. While the EPA staff admitted the regulations were developed with the electrical industry in mind and did not adequately address the pipeline industry's problems, there was an expressed reluctance to face Congressional oversight hearings or public castigation over any regulatory deviation that could appear to favor the pipeline industry.

Visits by the EPA task group members to pipeline facilities clearly revealed the extent of the problem. Once the group realized that large diameter pipe and ancillary equipment could not reasonably be incinerated nor placed in scarce chemical landfills, a more cooperative attitude was apparent and more serious negotiations commenced.

III. Current Situation

The EPA task group indicated a belief that the air compressor problem was not as severe or pressing as the pipeline replacement and abandonment problem. Therefore, they planned to focus their limited resources on the most

serious problem first and would address it in small, definable steps.

The EPA group agreed to focus on the industry's highest priority issue; the EPA nonrebuttable position that if any portion of a pipeline system contained PCB contaminated condensates at any time, the company's entire pipeline system was assumed to be PCB-contaminated. That would require incineration, chemical landfill disposal, or an EPA-approved alternative disposal technology permit for replacement, and abandonment would be considered illegal disposal.

In September 1990, and subsequently modified in February 1991, the EPA produced a technical guidance document (Appendix) for declassifying portions of pipeline systems. This abandonment of the nonrebuttable assumption by the EPA is a significant and cost saving breakthrough which will allow those companies with only small contaminated portions of their systems to prove to EPA that their entire system is not a PCB article. Once cleared by EPA, companies will be able to take normal and routine replacement, abandonment, sale and disposal actions without further hindrance from the EPA or FERC. This guidance document is based largely on the recommendations and procedures outlined in INGAA's generic remediation program. To date, three companies have taken advantage of this guidance to clear significant portions of their systems; from 50 percent to nearly 95 percent.

Subsequently, the EPA task group has developed draft guidance documents for the characterization and abandonment in place of contaminated pipelines and for the characterization for disposal of suspect pipe which was

previously removed for various reasons and stored on company property awaiting EPA disposal guidance. These two documents are still in the negotiating stage so cannot be included in this report.

Following completion of those two guidance documents, EPA must then address the removal, decontamination for reuse or sale, or disposal of operational pipe characterized as contaminated. Once that is resolved, the air compressor problem will then be addressed as a modification to EPA's existing PCB spill policy.

IV. Future Activities

The contract has been extended through 1991 for the current contractor to continue assisting the industry in reaching a satisfactory and cost-effective negotiated remediation program. Now that EPA has a task group working on this problem, it is essential that pressure be maintained to bring it to a satisfactory conclusion during 1991.

Enclosure

Appendix - EPA Declassification Guidance Document

Technical Guidance for the Declassification of Interstate Natural Gas Pipeline Systems

Developed by the United States Environmental Protection Agency

February 1991
(Revised)

I. Introduction

In 1981, the Environmental Protection Agency (EPA) discovered polychlorinated biphenyls (PCBs) present in natural gas pipeline distribution systems in Long Island, New York. At that time, the Agency initiated an extensive pipeline testing program across the United States. EPA determined that 13 of the 24 major interstate transmission pipeline systems had been exposed to PCBs in concentrations greater than 50 ppm.* EPA Headquarters established a Compliance Monitoring Program in 1981 with these companies which authorized the use of PCBs in the systems at concentrations greater than 50 ppm in exchange for participation in a program to control the migration of PCBs into other systems and to properly dispose of PCB liquids removed from the pipe.

In 1987, EPA entered into a memorandum of understanding with the Federal Energy Regulatory Commission (FERC) that requires EPA to approve all abandonment and removal projects proposed by any of the 13 interstate companies who had participated in the 1981 Headquarters' Compliance Monitoring Program. In 1988, EPA established a presumption that any interstate natural gas pipeline system which had been exposed to PCBs at concentrations greater than 500 ppm would be considered to be PCB Articles contaminated with PCBs at concentrations greater than 500 ppm. Natural gas pipeline which has been contaminated with PCBs at concentrations greater than 50 ppm are regulated for disposal under the "Other PCB Articles" provision at 40 CFR 761.60(b)(5) and (b)(6) (hereafter referred to as PCB Articles).

The rationale for the presumption has been that since PCBs are mobile within interstate natural gas systems, the particular location of the PCB contamination may change over time. The Agency has established this presumption to assure that pipeline that is no longer in service and is either abandoned in place or removed for reuse or disposal does not pose an unreasonable risk to human health or the environment.

Presently, PCB Articles with PCB contamination over 500 ppm may be disposed of in an incinerator which is approved under 40 CFR 761.70, in a chemical waste landfill which is approved under 40 CFR 761.75, or by an approved alternative method of destruction under 40 CFR 761.60(e). EPA has granted approvals for alternative destruction methodologies to two interstate natural gas pipeline companies.

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* This guidance has been revised to correct a statement in the October 1, 1990 document which incorrectly stated that a PCB concentration of greater than 500 ppm was found in 13 of the 24 interstate transmission companies.

PCB Articles with PCB contamination between 50 and 500 ppm must be inspected for the presence of free flowing liquids. If liquids are present, they must be removed and disposed of in accordance with TSCA PCB disposal regulations for PCB liquids. Free flowing liquids may be removed by pigging, draining, drying, suction and other means. The dry Article is then not regulated for disposal [40 CFR 761.60(b)(5)]. PCB Articles with PCB contamination less than 50 ppm are generally not regulated for disposal [40 CFR 761.1(b)].

II. Declassification--Background/Description

Since EPA has established the 500 ppm presumption, several interstate companies affected by the presumption have stated to EPA that large portions of their systems had never been exposed to PCB contamination greater than 50 ppm. EPA has reviewed a number of these claims and has determined that for certain companies there is sufficient evidence to support these claims. When EPA has decided that sufficient evidence exists, it has declassified those portions of the system which have never been exposed to 50 ppm PCB contamination (hereafter referred to as uncontaminated). Declassification of those portions has the effect of rendering them unregulated for disposal subject to EPA receiving contrary evidence.

As of July 1990, EPA had declassified portions of three interstate natural gas pipeline systems. EPA believes that declassification offers the most effective means of deregulating those uncontaminated portions of pipe.

Declassification differs from providing statistically valid evidence to rebut the presumption. The purpose of declassification is to identify uncontaminated portions of the pipeline system. The purpose of rebutting the presumption with statistically valid evidence is to verify that portions of the system which have been exposed to PCB contamination over 50 ppm (hereafter referred to as contaminated) are now either below regulated levels or have been drained of free flowing liquids.

Because it is more difficult to verify that a previously contaminated portion of a pipeline system is sufficiently clean than it is to initially identify which portions of a pipeline system are uncontaminated, the evidence required to rebut the presumption for contaminated portions of the system is greater than evidence required to declassify the uncontaminated portions of the system. Evidence required to rebut the presumption must be statistically significant. Evidence required to declassify uncontaminated portions must be sufficient to establish that the declassification will not result in an unreasonable risk to human health or the environment.

Declassification may not be appropriate for all uncontaminated portions of a natural gas pipeline system. Declassification is not appropriate for uncontaminated portions of a natural gas pipeline system when there is a likelihood of the uncontaminated portion becoming contaminated due either to the migration of PCBs upstream of the uncontaminated portion or due to the introduction of PCBs from another pipeline system at an interchange.

Declassification is also not appropriate for interstate natural gas pipeline systems which are not relatively linear in configuration. Pipeline systems which have significant branching off of the main trunk of the supply flow may be to difficult to analyze for the presence of PCBs or determine the possible migration route within the system.

Declassification is not appropriate for any areas where the sampling information is not sufficient to enable EPA to infer that the area is uncontaminated. The truthfulness and accuracy of the information presented in support of declassification is critical to the determination that the portion of pipeline under review is uncontaminated. If subsequent to the determination that a portion of a pipeline system is uncontaminated EPA receives information which contradicts the determination, EPA may, in its discretion, require additional sampling to sustain the determination or overturn the determination and reclassify the portion as contaminated.

III. Declassification--When is it available?

Declassification is available to all interstate natural gas transmission companies who were part of the 1981 Headquarters' Compliance Monitoring Program subject to satisfying threshold criteria. Once all threshold criteria are met, EPA will review the application for declassification. The threshold criteria are as follows.

Threshold Criteria

1. The configuration of the system would have to be relatively linear with few service laterals.

2. The portion of the system would have historically and currently low levels of PCB contamination (below 50 ppm). This portion would never have been exposed to PCB contamination with concentrations greater than 50 ppm.

3. No portion of a system could be considered for declassification which is downstream (i.e., in a portion of the system where the gas is flowing after it has passed the point of entry of PCB contamination) from a part of the system which has been historically contaminated with PCBs at concentrations of 50 ppm or greater.

IV. Declassification--What information must be submitted?

When declassification is available to an interstate natural gas pipeline company, the company shall submit information to EPA that is sufficient to demonstrate that the portion of its system under review is uncontaminated. EPA recommends that the minimum amount of information includes:

1. A clear and detailed map of the company's mainline and lateral system which indicates natural gas compressor locations, mile posts, interconnects, exchange points, meter stations, nearby towns, townships, cities, and other urban areas. The map should be legible.

2. A list of interconnects with other interstate natural gas companies indicating whether gas is from or to the other interstate company, whether or not the interconnect is still active and, if inactive, the date the interconnect became inactive; also if the potential for PCB contamination from the interconnect exists, what, if any, steps have been taken to assure that PCBs do not migrate from the other interstate company to the applying interstate company (i.e., installation of a filter separator).

3. A list of all PCB sampling and testing done in conjunction with the 1981 compliance monitoring program including a summary of where the contaminated portion of the system exists geographically in relation to the portion to be considered for declassification. The list should be ordered geographically and chronologically. First, the list should progress from the furthest point upstream to the furthest point downstream. Second, at each sampling point, the list should include in chronological order of sampling, the date of sampling, the location of the sample, the PCB concentration in the sample (i.e., simply listing the level to be less than 50 ppm is not sufficient), the detection limit of the test used, the name of the laboratory performing the test and the type of equipment the sample was drawn from (i.e., scrubber, elbow, drip tank).

4. A second list shall be similarly ordered and organized as the list in item 3 but shall include only the recent (1988 to present) PCB sampling and testing along all major segments of the portion of system proposed for declassification. Recent sampling information should include a minimum of two samples per location. At each sampling point, the list should include, in chronological order of sampling, the date and location of the sample, the PCB concentration in the sample, the detection limit of the test used, the name of the laboratory performing the test and the type of equipment the sample was drawn from (i.e., scrubber, elbow, drip tank).

5. Any other information which the company feels would be useful or dispositive in assisting EPA in making a determination on the portion of the system under consideration.

EPA may disapprove applications for declassification which do not demonstrate sufficient evidence that the applicable portion is uncontaminated. As an alternative to rejection, EPA may grant approval subject to completion of a condition such as additional sampling.