THE NEW ENGLAND GAS ASSOCIATION

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REPORT ON PCBs

The discovery of small amounts of Polychlorinated Biphenyls (PCBs), the use of which has been banned by the Environmental Protection Agency, in natural gas transmission lines is neither unexpected nor cause for public alarm. Prior to 1980, the use of PCBs in gas compressors was considered both safe and desirable. The fact that they are stable molecules, degrade very slowly and may take years to decrease and disappear, caused the EPA to ban continued utilization in May of that year. Gas transmission systems' usage had been limited to the lubricating and seal oil for their compressors, but minor accumulations had entered the lines prior to the ban. Since then PCBs have been unequivocably found only in the pipeline condensates.

Since natural gas is transported under pressure, the heavier hydrocarbons condense and the distillate has always required routine removal. The presence of PCBs in the distillate requires, under government regulations, specifically safe procedures for collection and disposal of it, procedures designed to reduce health hazards - if any - to an acceptable and undangerous minimum.

Also the gas industry has undertaken additional stringent steps to allay environmental concerns about the continued presence of PCBs in gas pipelines. Any potential health problems for workers and consumers have been checked, using tests recommended by the EPA to measure the amounts within the gas stream. Although most results in New England were negative, the industry is still working with the EPA to institute a more extensive and sensitive testing program.

In addition to this, the gas industry has had Ecology and Environment, Inc., (E & E) prepare a comprehensive review of possible health effects of PCBs. The potential consequences of human exposure to PCBs was explored by Dr. Robert James, Dr. Morris Cranmer and Dr. Raymond Harbison in three major areas:

1. Acute toxicity, or the immediate effects from a single large dose, was judged by standard criteria. This revealed that PCBs are only slightly to non-toxic. Short term effects of moderate doses in animals are minimal. The toxicity is comparable to that expected from such substances considered relatively safe such as table salt, alcohol or caffeine.

2. Chronic toxicity from PCBs is, for the most part, similarly unalarming. Assumed to be nonmutagenic because of negative findings at both the gene and the chromosome levels, PCBs produce minimal changes in newborns. In fact they are no more toxic to the fetus than most chemicals, and less toxic with regard to birth defects than some common vitamins and hormones.

3. The carcinogenic potential of PCBs is debatable. Inconsistent and contradictory results were produced by experiments and the most recent test, made by the National Cancer Institute, did not demonstrate that PCBs produce cancer in rats. No data substantiating an excess of cancer risk has been collected after fifty years of use. The largest study, a recent one covering over 2,500 employees from two capacitor plants, did not demonstrate any causal relationship between exposure to PCBs and excess of cancer of any kind.

Human exposure, overall, indicates that PCBs can be considered an unremarkable toxin. Studies of persons experiencing high levels of exposure for long periods of time do justify actions taken to minimize the concern for lower exposures, and the logical conclusion is that small amounts are of minimal concern.

The evaluation of environmental hazard generally is made on the basis of three important criteria: bioaccumulation, that is the ability to concentrate within the exposed organism; persistence in the environment; toxicity to the various organisms in the environment. The environmental persistance of PCBs and their ability to bioaccumulate are well known. Therefore the assumption that significant contamination could cause major environmental disruption within aquatic

habitats and the birds preying upon fish in such habitats led the EPA to act. Efforts were made to curtail the release of PCBs into the environment and to remove high concentrations where they threaten natural surroundings.

This does not mean that PCBs are poisonous or unsafe for all uses. As Emil Mrak stated, "There are no harmless substances; there are only harmless ways of using substances." A review of the scientific literature supports the view that PCBs are safe under controlled conditions and that limited exposure will not lead to unfortunate consequences. The conclusion by Drs. James, Cranmer and Harbison is that low levels of PCBs, such as those generally found in the environment, do not pose a human health hazard.

Potential exposure from PCBs presence in the gas stream is less than that typically found in the environment. The gas companies are continuing and will continue to work with the EPA to monitor the New England gas system to insure that there is no hazard now or in the future to their workers or to consumers.

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