File	✓	
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JTG	✓	✓
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EPW	✓	✓

December 18, 1963

Mr. Richard B. L. Fleming
Industrial Hygienist
Occupational Health Branch
Tennessee Valley Authority
Wilson Dam, Alabama

Dear Mr. Fleming:

As you indicated in your letter of December 9, Pydraul 625 has such a low vapor pressure that I would not expect vapor to be carried over in the air stream from a compressor lubricated with this fluid. Any material that might be carried over would depend on the temperature of the compressor cylinder walls, amount of wear of the equipment, leakage around the cylinders, etc.

I believe any of the vapor in the compressed air would be detected by odors at levels below any of toxicological significance. Certainly, if there were any decomposition of the fluid, any decomposition products present in toxic amounts would be objectionable because of irritation of nose and throat. The composition of such materials would again vary depending on the temperature involved. If there were complete decomposition, we would expect to find HCL, CO, CO_2, aldehydes, phenolics and the whole gamut of materials typical of thermal decomposition of any organic substance.

We ran limited tests on a compressor in one of our own plants with a fluid similar to Pydraul 625 and were unable to find any of the lubricant components in the compressed air stream. The method used was filter paper and silica gel with analysis of the iso-octane or iso-propanol extraction and using a Beckman spectrophotometer. In this particular case the compressor was made by the Joy Manufacturing Company and had been operating on the fluid for three years without any replacement or cleaning.

We do not consider this data conclusive because of the limited number of samples taken and recognizing the differences in compressor design and operating conditions.

In spite of the fact that we believe there is no serious hazard of carryover of Pydraul 625 and/or decomposition products we have always recommended that a commercial filter cartridge for air supplied masks be incorporated in the air line. We feel this is simply good industrial practice regardless of the type of compressor fluid or lubricant.

If I can give you any further assistance, please let me know.

Very truly yours,

MONS 090987

EPW:mjb

Jack T. Garrett, Mgr. Industrial Hygiene