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January 22, 1980
CC # 15,826

Mr. Michael Johnston
U. S. Environmental Protection Agency, Region X
1200 Sixth Avenue
Seattle, WA 98101

Dear Mr. Johnston:

Subject: Radian Analysis Report - Air Quality Impacts of Varying Individual Turbine Horsepower and Heater Capacities at Sites of Proposed New Sources in the Prudhoe Bay Oil Field

Enclosed are copies of a Radian report analyzing the "Air Qualily Impacts of Varying Individual Turbine Horsepower and Heater Capacities at Sites of Proposed New Sources in the Prudhoe Bay Oil Field." A previous Radian sensitivity analysis was submitted to the USEPA Region X on December 13, 1979. That analysis examined the air quality impacts of varying individual turbine horsepower. This present work examined the reduction in size of specific heaters, and turbine exhaust heat recovery on air quality. In addition per our discussions a case (case 3) was run using 100% of Briggs plume rise equation for turbines. These studies were conducted in an attempt to avoid delays due to permit modification that may be required if specific heater sizes are changed or if turbine exhaust heat recovery is determined feasible.

As in previous work, total horsepower and total heater duties remain constant at each Gathering Center and Flow Station but smaller specific size heaters and turbine heat recovery was examined in an attempt to develop a worse case scenario. It appears when assuming these worse case scenarios the ground level concentration for nitrogen oxide at the location of maximum impact due to all sources will only increase from 69.7 ug/m^3 (as reported in PSD application) to 71.0 ug/m^3.

If I can be of any further assistance, please call (907) 265-0127.

Delfim F. Dias
Senior Environmental Engineer

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