UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: JAN 06 1981

SUBJECT: Exchange of Air Emission Sources for Waterflood Project

FROM: David Tetta, Environmental Engineer
Air Surveillance & Investigation Section (M/S 345)

TO: Michael M. Johnston, Chief
New Source Permits Section (M/S 521)

THRU: William B. Schmidt, Chief
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I have reviewed the Prudhoe Bay Unit Owners request for an emissions exchange at Prudhoe Bay. The consortium proposes to cancel the planned construction of 7 turbines totaling 142 MHP capacity and 2-25 MW turbine generators. These units had been included in previous PSD permits. In exchange for these units, the consortium plans to construct 11 turbines totaling 72 MHP capacity and 5 heaters with a total heat capacity of 1,800 MMBTU's per hour.

The figure presented in the application indicate that the exchange will result in a net decrease below the present permitted level of emissions. In order for the exchange to be approved, the new units must control emissions to a level consistent with BACT. BACT for turbines and heaters was defined in a previous permit issued to the consortium. These levels are still considered to represent BACT. The BACT limits are shown in Table 8.

Since the net change in emissions is below the significant level as defined in §52.21 (b) 23(i), and since the new units will be utilizing BACT, PSD review is not necessary at this time.

cc: James Sweeney, AOO

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TABLE 8

Total Emissions Limitations

Source	Pollutant	(Tons/Yr)	Emissions Factor
Gas Turbines	NO_x	21,375	150(14.4/Y)ppm**
	CO	3,986	109.6 lb CO/10^6scf (fuel)
	PM	509	14 lb PM/10^6 scf (fuel)
			5% Opacity Limit
Process Heaters			
>(43 x 10^6 BTU/hr)	NO_x	361	.08 lb NO_x/10^6 BTU
<(43 x 10^6 BTU/hr)	NO_x	415	.19 lb NO_x/10^6 BTU
	CO	123	.018 lb CO/10^6 BTU
	PM	73	.011 lb PM/10^6 BTU
			5% Opacity Limit

** NO_x emissions factor for gas-fired turbines is modified by an efficiency factor (Y) which can not exceed 1.4 kilojoules/watt.hour (manufacturer's rated heat rate at rated peak load).

Based at 15% oxygen on a dry basis.