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Sent: Saturday, June 20, 2009 5:40 PM
To: Lee Gribovicz
Cc: Nelson, Rory; Chandra, Ajey; Dittus, Myles; Williams, Robert; tbachman@nd.gov
Subject: Comments - EC/R Inc. Four Factors Analysis - Hess Corporation Tioga Gas Plant

Mr. Gribovicz: A review of the Hess Corporation Tioga Gas Plant data contained in the Four-Factor Analyses for Selected Individual Facilities in North Dakota report was recently completed. Our comments regarding the Tioga Plant analyses follow:

SO2 Emissions - Sulfur Recovery Unit (SRU): The average sulfur recovery efficiency for the Tioga Gas Plant SRU is 98.8%. The baseline sulfur recovery efficiency stated in the report and used in the economic analysis is 97.5%. This difference in the recovery efficiency impacts the cost analyses. The cost per ton of sulfur dioxide emissions reduced by requiring additional control technology would increase substantially.

The Tioga Gas Plant SRU was designed for 225 long tons per day of sulfur production. The SRU currently recovers less than 100 long tons per day due to a lower sulfur concentration in the plant's inlet gas. Expectations are the amount of sulfur in the inlet gas will continue to drop as more sweet gas is processed by the plant in conjunction with the Bakken Field development.

The cost estimate for installing a TGTU-amine absorption unit appears to be based on a 1982 report and extrapolating the costs up from a 100 ton per day unit. This could lead to significant error in the cost analysis.

NOx Emissions - Clark Engines: The configuration of the Clark engine/compressor does not allow for replacement of the engine with an electric motor. The compressor cylinders connecting rods are an integral part of the engine's main crankshaft.

Selective Catalytic Reduction (Catalytic Converter) will not work to control NOx emissions from a two-cycle lean burn engine without the injection of ammonia upstream. The use of ammonia has additional safety concerns.

If you should have any questions regarding these comments or need additional data, my contact information follows.

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