



414 Nicollet Mall
Minneapolis, Minnesota 55401

May 18, 2005

Mr. Bill Storm
Minnesota Environmental Quality Board
658 Cedar Street, Room 300
St. Paul, MN 55155

RE: HIGH BRIDGE SITE PERMIT APPLICATION
DOCKET 05-91-PPS-Xcel High Bridge
REVISED AIR QUALITY INFORMATION

Dear Mr. Storm:

Our design and procurement processes have progressed since our Application was filed in January 2005, resulting in a few small changes to some of the parameters in the project description and environmental information. We now expect that the most likely combustion turbine manufacturer that will provide the turbines for the Project will be Mitsubishi. The Application technical information was generally based on the assumption that General Electric combustion turbines would be used on the Project. While the two turbine brands perform similarly, there are small differences, particularly with regard to power output and air emissions.

Attachment A includes updates to the following portions of our Application to reflect new information based on the use of Mitsubishi turbines for the Project:

- Table 2-1 HBCC Plant Capacity
- Section 4.1.5 Air Pollutant Impacts
- Table 4-1 Projected Actual Air Emissions
- Table 4-2 Future to Present Annual Emissions Comparison
- Table 4-2a Predicted Ambient Air Concentrations

We will be including these changes and additional minor changes to the Application in our direct testimony that will be filed prior to the public hearing for the Site Permit scheduled for May 24, 2005. That testimony will also provide our comments on the

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Environmental Assessment for the Project prepared by the Environmental Quality Board.

Please call me at (612) 330 6732 if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "James Alders". The signature is written in a cursive style with a long horizontal flourish at the end.

JAMES ALDERS
MANAGER REGULATORY PROJECTS

Enclosure

Attachment A

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Table 2-1 HBCC Plant Capacity

Condition	Temperature, Rel. Humidity	Net Capacity Non-duct Firing	Net Capacity Duct Firing
Summer, with evaporative cooling	75 °F, 90%	500 MW	575 MW
Summer, without evaporative cooling	89 °F, 47%	480 MW	550 MW
Winter*	-12 °F, NA	565 MW	635 MW

*Winter condition was modeled above at -12 deg F, the winter ASHRAE 2.5% condition for St. Paul, MN

4.1.5 Air Pollutant Impacts

As part of the PSD permit application, air-dispersion modeling was performed to demonstrate that the emissions from the facility will not cause or contribute to a violation of an ambient air quality standard or PSD increment. Modeling was performed using a modeling protocol that conforms to U.S. Environmental Protection Agency (EPA) standards to predict the maximum ambient concentrations of CO.

NAAQS MODELING

Xcel Energy sources were modeled to determine compliance with the National and Minnesota Ambient Air Quality Standards (NAAQS and MAAQS). MPCA guidance was relied upon to determine the appropriate background concentrations CO.

A complete modeling report was submitted as part of the PSD permit application. The PSD permit application will be reviewed by the MPCA and will be placed on public notice in accordance with the requirements of the application process.

MODELING RESULTS

The modeling results summarized in Table 4-2a demonstrate the ambient air concentrations of CO resulting from emissions from the proposed generation Plant, together with emissions from other regional emission sources, comply with the corresponding standards.

Attachment A (cont.)

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Table 4-1 Projected Actual Air Emissions

Pollutant	CT Emissions Normal Operation		CT1 Emissions Startup/Shutdown		CT2 Emissions Startup/Shutdown		Auxiliary Boiler		Fire Pump Diesel		Project Totals	
	Avg.(lbs/hr) ^a	(tons/yr) ^b	Avg.(lbs/hr) ^a	(tons/yr) ^{c,d}	Avg.(lbs/hr) ^a	(tons/yr) ^{c,d}	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr) ^e	(lbs/hr)	(tons/yr)
SO ₂	3.3	8.6	1.6	0.65	1.6	0.53	0.08	0.33	0.62	0.09	7.2	10.2
NO _x	44.6	116.5	44.7	18.1	42.5	14.0	5.3	23.1	9.3	1.4	146.4	173.8
PM ₁₀	12.2	32.2	5.8	2.3	5.8	1.9	0.88	3.9	0.66	0.10	25.4	40.4
CO	89.3	234.7	1,203.5	487.6	645.1	212.2	7.0	30.8	2.0	0.30	1,946.9	965.6
VOCs	14.8	38.8	79.7	32.3	64.3	21.1	0.44	1.9	0.74	0.11	159.9	94.3

^a An average hourly emission rate was derived based on the projected annual emission rate divided by the projected hours of operation in the specified operating mode.

^b The upper bound projected annual emissions are based on the following assumptions: 1) two Mitsubishi M501F combustion turbines operating at full load at the average ambient temperature; 2) an annualized capacity factor of 60% for the facility, which is equivalent to 5,256 hours of full load operation; and 3) the duct burners operate during 10% of the combined cycle hours of operation.

^c Startup and shutdown (SUSD) emission estimates are based on the assumptions that there are 4 hot starts per week, 1 cold start per week, and 52 weeks of operation per year.

^d No increase in SO₂ and PM₁₀ emissions are assumed to occur during SUSD operation. SUSD emission were calculated assuming the same emission factors as for normal operations.

^e The fire pump engine operates no more than 300 hours per year.

Table 4-2 Future to Present Annual Emissions Comparison

Pollutant	Future Projected Emissions (tons/yr)	Past Actual Emissions (tons/yr)	Projected Emissions Change (tons/yr)
SO ₂	10.2	3,892.9	-3,882.7
NO _x	173.2	5,779.2	-5,606.0
PM ₁₀	40.4	476.8	-436.4
CO	965.6	257.2	708.4
VOCs	94.3	30.6	63.7

Attachment A (cont.)

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Table 4-2a Predicted Ambient Air Concentrations

Pollutant	Standard Averaging Period	Modeled Concentrations (micrograms per cubic meter)	Background Concentration (micrograms per cubic meter)	Total Concentration (micrograms per cubic meter)	Standard (micrograms per cubic meter)
CO	NAAQS 1-hr	7,758.4	7,117	14,875.4	40,000
CO	NAAQS 8-hr	2,756.8	4,344	7,090.8	10,000