414 Nicollet Mall
Minneapolis, Minnesota 55401

February 14, 2005

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
ONSITE CHEMICALS TABLE

Dear Mr. Storm:

In your email message of February 7, 2005 you asked for a table indicating the anticipated chemical/hazardous materials to be used and stored on-site. That table is enclosed.

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

Sincerely,

James Alders

JAMES ALDERS
MANAGER REGULATORY PROJECTS

Enclosure

Typical Natural Gas-Fired Power Generating Facility Chemicals

Chemical	Use	Quantity Stored Onsite	Form/Type
Aqueous Ammonia	Selective catalytic reduction	25,000 gallons in two bulk storage tanks	Liquid, 19% solution
Disodium phosphate (Na_2HPO_4)	Boiler water pH and scale control	55 pounds	Granular
Trisodium phosphate (Na_3PO_4)	Boiler water pH and scale control	55 pounds	Granular
Ammonium Hydroxide	Feedwater Treatment	Two 55 gallon drums	Liquid
Oxygen Scavenger	Feedwater oxygen scavenger	55 gallon drum	Liquid
Drewgard 315	Closed Cooling System	55 gallon drum	Liquid
Nalco Perma Treat-PC-191 (phosphorus based)	Reverse Osmosis(RO) Antiscalant	300 gallon tote	Liquid
Sodium Bisulfite Solution	RO Pretreatment	200 gallon tote	Liquid
Sodium Hypochlorite Solution	Biological Growth Control and RO Pretreatment	200 gallon tote	Liquid
BetzDearborn Spectrus CT13000	Zebra Mussel Control	55 gallon drum (used only during treatments possibly 1-2 times per year)	Liquid
BetzDearborn Spectrus CT1401	Zebra Mussel Control	Two 30 pound bags (used only during treatments possibly 1-2 times per year)	Powder
Laboratory reagents	Various	Small amounts, generally less than 5 pounds each	Liquid and granular
Citric acid* (Temporarily onsite)	Chemical cleaning of HRSGs (Acid cleaning)	10,000 gallons (Used for initial chemical cleaning and may be used for future chemical cleaning. Approximately every 3 to 5 years)	Liquid, 50% solution
Sodium hydroxide (NaOH)	pH adjustment:RO, boiler	300 gallon	Liquid
Sodium hydroxide (NaOH)* (Temporarily onsite)	Chemical cleaning of HRSGs (Degreasing)	2,000 gallons (Used for initial chemical cleaning and may be used for future chemical cleaning. Approximately every 3 to 5 years)	Liquid, 50% NaOH

Typical Natural Gas-Fired Power Generating Facility Chemicals

Chemical	Use	Quantity Stored Onsite	Form/Type
Sodium carbonate Na_2CO_3* (Temporarily onsite)	Chemical cleaning of HRSGs (Neutralization)	30,000 pounds (Used for initial chemical cleaning and may be used for future chemical cleaning. Approximately every 3 to 5 years)	Powder
Sodium nitrite $NaNO_3$* (Temporarily onsite)	Chemical cleaning of HRSGs (Passivation)	9,000 pounds (Used for initial chemical cleaning and may be used for future chemical cleaning. Approximately every 3 to 5 years)	Crystals
Inhibitors, various* (Temporarily onsite)	Chemical cleaning of HRSGs (Foam control agents)	100 gallons (Used for initial chemical cleaning and may be used for future chemical cleaning. Approximately every 3 to 5 years)	Liquid
Mineral insulating oil, C-10	Transformer systems	28,000 gallons	Insulating fluid
Sulfur hexafluoride, (SF_6)	Substation electrical insulating gas	100,000 cubic feet	Insulating gas
Lubrication oil	Rotating equipment	20,000 gallons (In four 5,000 gallon tanks)	CTGs and STG bearing lubricating oil
Diesel fuel	Fuel for diesel engine driven fire pump	300 gallons	Diesel fuel
Diesel fuel	Fuel for emergency diesel generator	10,000 gallons	Diesel fuel
Various detergents	Combustion turbine on/off line water wash skid	200 gallons stored	Liquid
Compressed gases			
Carbon dioxide (CO_2)	CTGs and STG purge system	6,000 pounds/bottles	Compressed gas
Hydrogen (H_2)	CTGs and STG cooling system	1,800 pounds/bottles	Compressed gas

*Chemical cleaning agents shown are those typically used. A decision on which chemicals and quantity will actually be used will be made as the project design progresses.