GULF STATES UTILITIES COMPANY

RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70775

AREA CODE 504 635-6094 348-8651

May 25, 1988
RBG- 27973
File No. G1.11.7

50-458

Mr. Myron O. Knudson, P.E.
Director, Water Management Division (6W)
U.S. Environmental Protection Agency, Region IV
Allied Bank Tower at Fountain Place
1445 Ross Avenue
Dallas, TX 75202-2733

Attn: Ms. Wren Stenger

Dear Mr. Knudson:

NPDES Permit No. LA0042731
River Bend Station - Unit 1

Gulf States Utilities (GSU) hereby requests an Administrative Order to allow use of cooling water treatment chemicals in addition to those previously described in applications for NPDES Permit No. LA0042731.

River Bend Station is a nuclear-fueled steam electric generating station located on the east bank of the Mississippi River south of St. Francisville in West Feliciana Parish, Louisiana. Station cooling is provided by forced draft cooling towers and noncontact cooling water. Makeup to the cooling systems is drawn from and blowdown is discharged to the Mississippi River.

Outfall 001 is the combined discharge of cooling tower blowdown and previously monitored low-volume wastes from Outfall 002. Current treatment of cooling water consists of adding: tolytriazole salts for control of copper corrosion; polysilicate salts for control of mild steel corrosion; a polyacrylate/phosphate blend for control of scale formation; sulfuric acid for control of pH; and sodium hypochlorite for control of biofouling. The treatment chemicals currently used do not contain any of the Priority Pollutants listed in 40CFR423, Appendix A.

Continuous low-level chlorination of normal service water, which represents about ten percent of total cooling water flow, is required for control of Asiatic clams (Corbicula sp.). Addition of bisulfite salts to the blowdown is used to remove low levels of residual chlorine when necessary.

After about two years of operation at River Bend Station, testing and direct observation of cooling system performance indicates a need for enhancement of treatment practices for mild steel corrosion inhibition. Three corrosion inhibitors, suitable for mild steel, have been identified which can be used singly or in various combinations: polysilicate salts (currently in use); zinc salts; and phosphate salts. Preliminary evaluation indicates that adequate protection of mild steel can be achieved with zinc levels of 1.0 mg/l or less.

A001
1/1

To enable adequate testing and ultimate use of the treatment options associated with the various combinations of corrosion inhibitors, GSU requests that the Administrative Order be issued for a term of 18 months. Twelve months of this term will be needed for testing and evaluation and 6 additional months will be needed to submit and receive approval of the permit modification request, if the effectiveness of the zinc treatment is proven for continued use.

GSU proposes that the Administrative Order be issued with discharge limits for zinc for Outfall 001 of NPDES Permit No. LA0042731 of 1.0 mg/l daily average and 1.0 mg/l daily maximum, in accordance with the provisions of 40CFR423. Proposed monitoring would be conducted at Outfall 001 once per week by grab sample.

The proposed cooling water treatment program will consist of:

Polysilicate salts, zinc salts, and/or phosphate salts, either singly or in combination for mild steel corrosion control;

Tolytriazole salts or equivalent for copper corrosion control;

Polyacrylate/phosphate blend or similar polyelectrolyte for scale control;

Sodium hypochlorite for control of biofouling; and

Sulfuric acid for pH control.

With the exception of the zinc noted above, no chemicals which contain any of the Priority Pollutants listed in 40CFR423, Appendix A, will be used for treatment of cooling water.

Should you require further information, please contact Mr. James W. Cook at the above address or at (504) 381-4151.

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

James C. Deddens
Senior Vice President
River Bend Nuclear Group

JCD/JEB/LAE/JVC/JWC/ch

cc: Ms. Maureen O'Neill, Assistant Secretary
Office of Water Resources
Department of Environmental Quality
Post Office Box 44091, Capitol Station
Baton Rouge, LA 70804-4091

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, TX 76011

NRC Resident Inspector
Post Office Box 1051
St. Francisville, LA 70775