

The Light company

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October 29, 1985

ST-HL-AE-1472

File No.: G9.17

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U. S. Nuclear Regulatory Commission
Washington, DC 20555

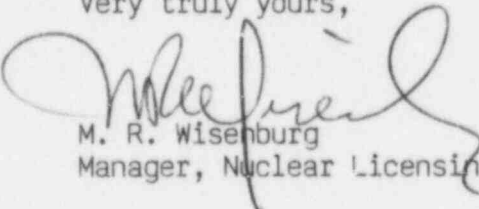
South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Revised FSAR Changes to Section 9.2.8

Dear Mr. Knighton:

Attached are annotated FSAR pages to FSAR Section 9.2.8, "Fresh Water and Service Water Systems" which identifies that ozone will be used as a biocide in the settling basin in place of chlorine. These changes were committed in our letter of August 29, 1985, ST-HL-AE-1322, "Final Report Concerning Corrosion in a Safety Injection System Weld".

If you should have any questions on this matter, please contact Mr. M. E. Powell at (713) 993-1328.

Very truly yours,


M. R. Wisenbourg
Manager, Nuclear Licensing

MEP/yd

Attachments: Revised FSAR Pages 9.2-34 & 35

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Revised 9/25/85

RMWS. Table 9.2.7-2 presents a summary of components included in the analysis. Data presented by the table demonstrates that the RMWS can sustain the failure of any single active component and still meet its safety requirement.

9.2.8 Fresh Water and Service Water Systems

The Fresh Water and Service Water Systems process onsite well water. The treated and filtered water is stored and distributed to various systems in each unit and common facilities.

9.2.8.1 Design Bases. The Fresh Water System is designed to remove suspended solids and to reduce the iron level in the well water. ^{Insert A} ~~The well water is treated with sodium hypochlorite to oxidize iron and to control bacteria growth in the water.~~ Polymer is added to the process to coagulate the ferric iron prior to filtering. The removal of ferric iron and other suspended solids in the water is accomplished by two pressure sand filters. The treated and filtered water is then transferred to the (a) potable water storage tanks, (b) service water storage tank, (c) fire protection water storage tank, and (d) brine dilution water softeners to satisfy the fresh water demands of these systems. The Fresh Water System is designed so there are no connections with systems that might contain radioactivity or water unfit for human consumption.

The Service Water System utilizes treated and filtered water from the Fresh Water System and transfers this water to various users throughout the plant from the Service Water System storage tank. The primary use of service water is the MDWS.

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9.2.8.2 System Description.

9.2.8.2.1 General: The Fresh Water and Service Water Systems are shown on Figures 9.2.8-1 and 9.2.8-2, respectively. Both systems are located in the common facilities and serve both units.

9.2.8.2.2 ^{ozonated} Fresh Water System. ^{Insert B} Well water received from the three onsite wells is ~~chlorinated~~ at the well water settling basin. The settling basin is constructed below-grade from reinforced concrete in accordance with the ACI Building Code 318-71. ~~Continuous~~ Chlorination of the well water is provided ^{as a backup} by two 100-percent capacity diaphragm type sodium hypochlorite pumps. The water is transferred from the settling basin to the two pressure sand filters and on to the water users by two 100-percent capacity vertical turbine pumps at the settling basin outlet section. Injection of polymer to the water upstream of the filters is provided by two 100-percent capacity polymer feed pumps. The two 50-percent capacity pressure sand filters remove ferric iron and other suspended solids.

9.2.8.3 Service Water System. The treated and filtered well water is received and stored in the 100,000-gallon service water storage tank (SWST). The SWST is a cylindrical steel tank having a self-supporting dome roof with an internal liner. Three 50-percent capacity horizontal centrifugal service water pumps transfer the water to the following users:

- The Makeup Demineralizer Water System

INSERT A:

Ozone is introduced by a 100-percent ozone generator into the well water header prior to the well water discharging into the settling basin.

INSERT B:

Ozone is injected into the well water to prevent the influx of corrosion influencing bacteria from the well into the plant water systems. The ozone also provides bacteriological control for potable water uses and oxidizes iron for removal in the pressure filters.

- Hose connections located in the TGB Units 1 and 2, and throughout the yard areas for washdown
- Miscellaneous users throughout the plant for pump seals, bearing cooling, line flushing, etc.

9.2.8.3.1 Safety Evaluation: The Fresh Water and Service Water Systems have no safety function. Failure of the systems has no adverse effect on any safety-related system or components.

9.2.8.4 Tests and Inspections. After installation each component is inspected, cleaned, and tested. Testing consists of pressurizing the system, inspecting for leaks, calibrating instruments, and checking the operability of system components.

X 9.2.8.5 Instrumentation Application. Local controls are provided for the fresh water pumps, service water pumps, ^{ozonator} sodium hypochlorite pumps, polymer feed pumps, pressure filters, and pneumatically operated level and pressure control valves to manually operate the systems during testing and start-up operations. Automatic controls are also provided for the above equipment to operate the system during all phases of power plant operation without operator action.

Instrumentation is shown on Figures 9.2.8-1 and 9.2.8-2. Local instrumentation is installed throughout the systems to monitor process parameters. Additional remote indications are provided at the Demineralizer Building Panel for selected process variables.

Various alarms are indicated on the Demineralizer Building Panel to alert the operators of abnormal system conditions.

X Pressure safety relief valves are provided for the sodium hypochlorite pumps, ^{ozonator} polymer feed pumps, and pressure filters to prevent overpressurization.