The withdrawal of cooling water from the Altamaha River is expected to increase slightly, primarily due to the increase in the evaporation rate from the cooling towers. Emergency system flows are expected to remain generally unchanged. Although increased heat loads are expected for nonsafety-related loads, such as the main generator stator coolers, hydrogen coolers, and exciter coolers, heat loads will remain within the existing design heat loads of the service water systems.

The circulating water system design flow rate is the primary basis for determining makeup water for the Plant Hatch cooling towers. Other factors affecting tower makeup are tower performance and meteorological conditions. Based on the review of cooling tower performance parameters associated with power uprate, the design flow rate of the cooling towers will not change. Makeup requirements may increase slightly due to increased heat load on the towers and the associated increase in evaporation. As discussed in Enclosure 2 of Reference 1, the increase in makeup (withdrawal rate is expected to be approximately 5 percent or 500 gpm. This projected increase associated with the uprate is not significant and is enveloped by the river water withdrawal rates discussed in the FES and the rates approved under the current Georgia Surface Water Withdrawal Permit for Plant Hatch. Intake canal velocity will not be significantly affected. No measurable effects on fish impingement or plankton entrainment are expected.

Changes in cooling tower blowdown rate and cooling tower chemistry as a result of the uprate are not significant. Any changes in blowdown rate and cooling tower cycles of concentration resulting from uprated power operation are enveloped by the existing design criteria discussed in FES.

Cooling tower drift does not increase as a result of the uprate since the circulating water flow rate does not change. Cooling tower blowdown temperature associated with power uprate operation increase slightly (<1 °F), thereby producing a slight increase in river discharge temperature. A review of the increase in the river discharge temperature relative to the conclusions of the FES and thermal studies required to support licensing of the plant indicates the slight temperature increase is not significant.

The thermal plume characteristics are not expected to change significantly as a result of power uprate. Circulating water and service water flow rates remain unchanged. The discharge temperature to the cooling towers should increase by no more than 1 °F due to operation at power uprate conditions. The corresponding change in discharge temperature at the river will not significantly impact the size or characteristics of the thermal plume. Thermal plume studies conducted during original licensing and the FES conclusions relative to thermal impacts remain valid for the uprated condition.

No significant change in discharge flow rate, velocity, or chemical composition will occur due to the proposed power uprate. Power uprate does not impact the discharge characteristics upon which the NPDES Permit is based. No notification, changes, or other actions relative to the NPDES Permit are required.

No change in the groundwater withdrawal required to supply the Hatch treatment plant or fire protection system will result from the proposed uprate.

The evaluation also considered the flow rate required by the liquid radwaste system (e.g., floor and equipment drains) due to the proposed uprate. No significant change in liquid radwaste quantities or activity levels which would increase the required radwaste dilution flow are expected. Therefore, the impact on the environment from these systems as a result of operation at the uprate power levels is not significant.

Plant operation at uprated power conditions will not affect current noise levels. Major plant equipment is housed within structures located on the plant site and is not a major contributor to surrounding noise levels. Equipment, such as the main turbines/generators and the cooling towers, will continue to operate at the current speed and noise level. The generator step-up transformers will operate at an increased KVA level; however, the overall noise level will not increase significantly.

Thus, the proposed uprate will not result in any significant environmental impact and is not an unreviewed environmental question. In addition, no actions relative to the Environmental Technical Specifications (ETS), NPDES permit or other environmental documents are required.

Radiological Environmental Assessment

Georgia Power Company evaluated the impact of the proposed power uprate amendment and concluded that the applicable regulatory acceptance criteria relative to radiological environmental impacts will continue to be satisfied for the uprated power conditions. Existing Technical Specifications limits on radiological effluents will be maintained. In conducting this evaluation, GPC considered the effect of the higher power level on liquid radioactive wastes, gaseous radioactive wastes, and radiation levels both in the plant and offsite during both normal operation and post-accident.

Enclosure 4 of Reference 1 provides the power uprate safety analyses report for Plant Hatch, as well as an assessment of the radiological effects of power uprate operation during both normal and postulated accident conditions. Sections 8.1 and 8.2 discuss the potential effect of power uprate on the liquid and gaseous radwaste systems. Sections 8.3, 8.4, and 8.5 discuss the potential effect of power uprate on radiation sources within the plant and radiation levels during normal and post-accident conditions. Section 4.4 discusses the standby gas treatment system (SGTS). Section 9.2 presents the results of the calculated whole body and thyroid doses at the exclusion area boundary and the low population zone that might result from the postulated design basis radiological accidents. All offsite doses remain below established regulatory limits for power uprate operation.

The floor drain collector subsystem and the waste collector subsystem both receive inputs from a variety of sources (e.g., leakage from component cooling water system, reactor coolant system, condensate and feedwater system, turbine, and plant cooling water system). However, leakages from these systems are not expected to increase significantly since the operating pressures of these systems are either being maintained constant or are being increased only slightly due to the proposed power uprate.

The largest source of liquid radioactive waste is from the backwash of the condensate demineralizers. These demineralizers remove activated corrosion products which are expected to increase proportionally to the proposed power uprate. However, the total volume of processed waste is not expected to increase significantly, since the only appreciable increase in processed waste will be due to the slightly more frequent cleaning of these demineralizers. Based on a review of plant effluent reports and the slight increase expected due to the proposed power uprate, GPC has concluded that the slight increase in the processing of liquid radioactive wastes will not have a significant increase in environment impact and that requirements of 10 CFR part 20 and 10 CFR part 50, Appendix I, will continue to be met.