

August 21, 1998

Mr. H. L. Sumner, Jr.
Vice President - Nuclear
Hatch Project
Southern Nuclear Operating
Company, Inc.
Post Office Box 1295
Birmingham, Alabama 35201-1295

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2 - DRAFT
ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT
IMPACT (TAC NOS. M99393 AND M99394)

Dear Mr. Sumner:

Enclosed is a Draft Environmental Assessment and Finding of No Significant Impact related to your application for amendments dated August 8, 1997, as supplemented by letters dated March 9, May 6, July 6, and July 31, 1998, and letter dated April 17, 1997, which was provided in advance of your application. The proposed amendments would allow an increase in the maximum thermal power (MWt) at the Edwin I. Hatch Nuclear Plant, Units 1 and 2, from 2558 MWt to 2763 MWt, representing a power increase of 8 percent.

In accordance with the NRC staff's position paper dated February 8, 1996, a draft environmental assessment is being forwarded to the Federal Register for publication to provide for a 30-day public comment period.

Sincerely,

ORIGINAL SIGNED BY:
Leonard N. Olshan, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-321 and 50-366

Enclosure: Draft Environmental Assessment

cc w/encl: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Southern Nuclear Operating
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Sincerely,

A handwritten signature in black ink, appearing to read "L. N. Olshan".

Leonard N. Olshan, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-321 and 50-366

Enclosure: Draft Environmental Assessment

cc w/encl: See next page

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Edwin I. Hatch Nuclear Plant

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12-12-96

UNITED STATES NUCLEAR REGULATORY COMMISSION
DRAFT ENVIRONMENTAL ASSESSMENT
AND FINDING OF NO SIGNIFICANT IMPACT
RELATED TO PROPOSED LICENSE AMENDMENTS TO INCREASE
MAXIMUM RATED THERMAL POWER LEVEL
SOUTHERN NUCLEAR OPERATING COMPANY, INC., ET AL.
EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 50-321 AND 50-366

AGENCY: U.S. Nuclear Regulatory Commission (Commission, NRC)

ACTION: Notice of opportunity for public comment

SUMMARY: The NRC has prepared a draft environmental assessment related to a request by the Southern Nuclear Operating Company, Inc. (SNC, the licensee) for license amendments to increase the maximum thermal power (MWt) at its Edwin I. Hatch Nuclear Plant, Units 1 and 2, from 2558 MWt to 2763 MWt, representing a power increase of 8 percent. This extended power uprate follows a 5 percent power uprate from the original licensing basis of 2436 MWt to 2558 MWt, which was implemented following the Unit 2 fall 1995 outage and the Unit 1 spring 1996 outage. As stated in the NRC staff's position paper on the Boiling-Water Reactor Extended Power Uprate Program dated February 8, 1996, the staff has the option of preparing an environmental impact statement (EIS) if it believes a significant impact would result from the power uprate. The staff did not identify a significant impact related to SNC's request for an extended power uprate; therefore, the NRC staff is documenting its environmental review in an environmental assessment (EA). In accordance with the February 8, 1996, staff position paper, a draft EA and finding of no significant impact is being published in the FEDERAL REGISTER for a 30-day public comment period.

DATES: The comment period will expire 30 days after publication. Comments received after this date will be considered if practical to do so, but the Commission is able to assure consideration only for those comments received on or before 30 days after publication.

ADDRESSEES: Submit written comments to Chief, Rules and Directives Branch, Division of Administrative Services, Office of Administration, U.S. Nuclear Regulatory Commission, Mail Stop T-6-D69, Washington, DC 20555-0001. Written comments may also be delivered to Room 6-D59, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland, from 7:30 a.m. to 4:15 p.m., on Federal workdays. Copies of written comments received may be examined at the NRC's Public Document Room, the Gelman Building, 2120 L Street, NW. (Lower Level), Washington, DC, or the local public document room located at the Appling County Public Library, 301 City Hall Drive, Baxley, Georgia.

FOR FURTHER INFORMATION CONTACT: Leonard N. Olshan, Senior Project Manager, Office of Nuclear Reactor Regulation, Mail Stop O-14 H-25, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by telephone at (301) 415-1419 or by e-mail at Ino@nrc.gov.

SUPPLEMENTARY INFORMATION:

The Commission is considering issuance of amendments to Facility Operating License Nos. DPR-57 and NFP-5, issued to SNC for the operation of the Edwin I. Hatch Nuclear Plant, Units 1 and 2, located on the Altamaha River in Appling County, approximately 11 miles north of Baxley, Georgia. The Commission's draft Environmental Assessment And Finding of No Significant Impact related to the subject license amendments is provided herein.

ENVIRONMENTAL ASSESSMENT

Description of Proposed Action

By letter dated August 8, 1997, supplemented by letters dated March 9, May 6, July 6, and July 31, 1998, SNC requested amendments to Facility Operating License Nos. DPR-57 and NFP-5 for the operation of the Edwin I. Hatch Nuclear Plant (Plant Hatch), Units 1 and 2, located on the Altamaha River in Appling County, approximately 11 miles north of Baxley, Georgia. On April 17, 1997, information concerning the SNC dose assessment for Plant Hatch was submitted in advance of the application for license amendments.

SNC has requested an increase in the maximum thermal power from 2558 MWt to 2763 MWt, which represents a power increase of 8 percent. This is considered an extended power uprate because it follows a 5 percent power uprate from the original licensing basis of 2436 MWt to 2558 MWt, which was implemented following the Unit 2 fall 1995 outage and the Unit 1 spring 1996 outage.

Need for the Proposed Action

SNC forecasts the increase in electrical generation to allow prudent planning for adding power capacity. Large base load plants are not required for several years. However, expected increases in customer demand will be met by either increasing the number of combustion turbines or purchasing electrical power from other sources. The proposed extended power uprate will provide increased reactor power, thus adding an additional 80 to 120 MW of reliable electrical generating capacity to the grid without major hardware modifications to the plant and will displace the need for two 50-megawatts electric gas turbines. Because of design and safety margins in the plant equipment, the proposed extended power uprate can be accomplished with relatively few modifications. Also, because Plant Hatch is already in operation, impacts of construction can be avoided. The cost of adding this nuclear generating

capacity roughly equals the cost of constructing combustion turbines; however, the fuel cost of nuclear power is approximately one-tenth that of natural gas and the additional energy is expected to be produced for less than 1 cent per kilowatt hour. Furthermore, unlike fossil fuel plants, Plant Hatch does not routinely emit sulfur dioxide, nitrogen oxides, carbon dioxide, or other atmospheric pollutants that contribute to greenhouse gases or acid rain.

ENVIRONMENTAL IMPACTS

At the time of the issuance of the operating licenses for Plant Hatch, the NRC staff noted that any activity authorized by the license is encompassed by the overall action evaluated in the Final Environmental Statement (FES), which was issued in March 1978. The original operating licenses for both Plant Hatch units allowed a maximum reactor power level of 2436 MWt. Plant Hatch has already received a 5 percent power uprate for each unit from the original licensing bases of 2436 MWt to 2558 MWt, which were implemented following the Unit 2 fall 1995 outage and the Unit 1 spring 1996 outage. An EA associated with the power uprate was published in the FEDERAL REGISTER on July 27, 1995 (60 FR 38593). SNC has submitted an environmental evaluation supporting the proposed extended power uprate action and provided a summary of its conclusions concerning both the radiological and nonradiological environmental impacts of the proposed action. Based on its independent analyses and the evaluation performed by the licensee, the staff concludes that the environmental impacts of the extended power uprate are well bounded or encompassed by previously evaluated environmental impacts and criteria established by the staff in the FES. Extended power uprate can be implemented at Plant Hatch without making extensive changes to plant systems that directly or indirectly interface with the environment. No changes to State permits are required. A summary of the nonradiological and radiological effects on the environment that may result from the proposed amendments is provided herein.

Nonradiological Impacts

Terrestrial Impacts

Impacts on Land Use: The proposed extended power uprate will not modify the land use at the site, as described in the FES. Neither construction of new facilities nor the modification of existing facilities, including buildings, access roads, parking facilities, laydown areas, and onsite transmission and distribution equipment, including power line rights-of-way, is needed to support the uprate or operation after uprate. Extended power uprate will not significantly affect material storage, including chemicals, fuels, and other materials stored in aboveground and/or underground storage.

Cooling Tower Impacts: In the FES, the staff concluded that operation of the Plant Hatch cooling towers would not be detrimental to either the land or the vegetation in the vicinity of the plant. Monitoring programs, including low altitude true and false color photography, have not revealed any negative effects attributable to salt deposition from cooling tower drift resulting from station operation to date. The proposed extended power uprate will not increase the circulating water flow; therefore, no increase in cooling tower drift is expected.

The FES states that the climate at the site consists of mild, short winters (average monthly minimum temperature of approximately 52 °F); therefore, icing conditions are rare and the probability of icing on nearby roads is extremely low. Because circulating water flow will not increase as a result of extended power uprate, cooling tower drift will not increase and the impact of icing on trees, vegetation, and roads will not increase. Therefore, the conclusions of the FES relative to icing remain valid for the proposed extended power uprate.

A small increase in fogging potential due to operation of cooling towers was noted in the FES but was determined to be insignificant. The slight increase in heat load on the cooling towers from the proposed extended power uprate is expected to result in a very slight increase

in the potential for fogging. However, this incremental increase is expected to be insignificant and will not change the conclusions in the FES.

After considering the small increase in heat load on the cooling towers, the staff concludes that the incremental effects of fog attributable to the proposed extended power uprate will be negligible and will continue to be bounded by the FES. Other cooling tower impacts, such as drift and icing, are not expected to change as a result of the proposed extended power uprate.

Transmission Facility Impacts: No changes in existing transmission line design and operation will result from the proposed extended power uprate. No new requirements or changes to onsite transmission equipment, operating transmission voltages, or offsite power systems will result from implementation of the proposed extended power uprate.

The rise in generator output associated with extended power uprate will produce a slight current and electromagnetic field (EMF) increase in the onsite transmission line between the main generator and the plant substation. The line is located entirely within the fenced, licensee-controlled boundary of the plant, and neither members of the public nor wildlife would be expected to be affected. Exposure to EMFs from the offsite transmission system is not expected to increase significantly and any such slight increases are not expected to change the staff's conclusion in the FES that there are no significant biological effects attributable to EMFs from high voltage transmission lines associated with Plant Hatch.

Because Plant Hatch transmission lines are designed and constructed in accordance with applicable shock prevention provisions of the National Electric Safety Code, the slight increase in current attributable to the proposed extended power uprate is not expected to change the staff's conclusions in the FES that adequate protection is provided against hazards from electrical shock.

Impacts on Terrestrial Biota: The proposed extended power uprate will not change the land use as evaluated in the FES and will not disturb the habitat of any terrestrial plant or animal species. The conclusions reached by the staff in the FES relative to impact on terrestrial ecology, including endangered and threatened plant and animal species, remain valid for the proposed extended power uprate.

Aquatic Impacts

Surface Water: Extended power uprate is accomplished by increasing the heat output of the reactor, thereby increasing steam flow to the turbine, for which increased feedwater flow is needed. For the proposed extended power uprate, the 22,500 gallons per minute (gpm) (50 cubic feet per second) average withdrawal rate for one unit of Plant Hatch assessed in the FES will remain unchanged. The increase in steam flow resulting from the extended power uprate does increase the duty on the main condenser and the resulting slight increase in evaporation from the cooling towers will be balanced by a decrease in blowdown discharge such that no increase in withdrawal is anticipated.

Groundwater: In the FES, the staff concluded that a minimal quantity of groundwater (327 gpm, 0.471 million gallons per day (gpd)) will be withdrawn from two wells for normal two-unit operation and this amount was not likely to significantly impact the regional aquifer.

Groundwater use at Plant Hatch is governed by a permit issued by the Environmental Protection Division of the State of Georgia Department of Natural Resources, which authorizes withdrawal of 1.1 million gpd monthly average, and 0.550 million gpd annual average. Although the values allowed by the groundwater withdrawal permit are somewhat greater than the values evaluated in the FES, the typical groundwater withdrawal rate for two-unit operation is 0.167 million gpd (116 gpm), with a maximum value of 0.281 million gpd (195 gpm). The proposed extended power uprate will not result in a significant increase in the use of groundwater

resources and will not significantly reduce the margin to limits contained in the permit issued by the State. The conclusions reached by the staff in the FES relative to groundwater use remain valid for the proposed extended power uprate.

Intake Impacts: The impacts of operation of the river water intakes include impingement of fish on the traveling screens at the intake structure and entrainment of phytoplankton, periphyton, drifting macroinvertebrates, and fish eggs and larvae. The losses of impinged and entrained organisms were assessed in the FES and were judged to be insignificant, compared to overall populations in the Altamaha River. Due to an increase in heat load on the cooling towers as a result of extended power uprate, evaporative losses will increase. In order to compensate for the increase in evaporative losses, cooling tower makeup will be increased slightly and cooling tower blowdown will be decreased by approximately 626 gpm. The additional incremental increase in makeup is considered insignificant and will not significantly increase the impacts of impingement and entrainment on aquatic biota in the Altamaha River beyond those addressed in the FES.

Discharge Impacts: Impacts of station operation resulting from the plant discharges include thermal and physical effects of cooling tower basin blowdown and the effects of chemical discharges from serial-numbered outfalls controlled by the National Pollutant Discharge Elimination System (NPDES) permit. The increased thermal discharges resulting from the proposed extended power uprate are expected to have the effect of increasing the discharge temperature of cooling water blowdown such that the temperature increase in the Altamaha River after mixing would be less than 0.1 °F.

As described above, cooling tower blowdown is expected to decrease by 626 gpm; therefore, the extended power uprate will not result in increased impacts due to scour on

aquatic macrobenthic organisms or to increase turbidity in the Altamaha River in the vicinity of the plant discharge.

Chemical usage and subsequent discharge to the environment are not expected to change significantly as a result of implementing the proposed extended power uprate. Cycles of concentration at which the cooling towers operate will not change and no changes in the cooling tower chemistry program will result from the extended power uprate. Finally, no changes to the sanitary waste system or to the parameters regulated by the NPDES permit are needed to accomplish the extended power uprate. Therefore, the conclusions in the FES regarding chemical discharges remain valid.

Socioeconomic Impacts

Physical Impacts: The staff has considered the potential for direct physical impacts resulting from the proposed extended power uprate. The proposed extended power uprate will be accomplished primarily by changes in station operation, resulting in very few modifications to the station facility. These limited modifications can be accomplished without physical changes to transmission corridors, access roads, other offsite facilities, or additional project-related transportation of goods or materials. Therefore, no significant additional construction disturbances causing noise, odors, vehicle exhaust, dust, vibration, or shock from blasting are expected and the conclusions in the FES remain valid.

Social and Economic Impacts: The staff has reviewed information provided by the licensee regarding socioeconomic impacts. SNC is a major employer in the community and the largest single contributor to the local tax base. SNC personnel also contribute to the tax base by payment of sales and property tax and many are involved in volunteer work within the community. The proposed extended power uprate will not significantly affect the size of the Plant Hatch workforce and will not have a material effect upon the labor force required for future

outages. Because the plant modifications needed to implement the extended power uprate will be minor, any increase in sales tax and additional revenue to local and national business will be negligible relative to the large tax revenues generated by Plant Hatch. It is expected that improving the economic performance of Plant Hatch through cost reductions and lower total bus bar costs per kWh will enhance the value of Plant Hatch as a generating asset and lower the probability of early plant retirement. Early plant retirement would have a significant negative impact upon the local economy and the community as a whole. The ability of the local economy to provide substitute tax revenues and similar employment opportunities for SNC employees is limited and serious reductions in public services, employment, income, business revenues, and property values could result from early plant retirement, although these reductions could be mitigated by decommissioning activities in the short-term.

The staff has also evaluated the environmental impact of the proposed extended power uprate on aesthetic resources and lands with historical or archaeological significance and concludes that the proposed action will not change aesthetic resources or affect lands with historical or archeological significance.

Summary

In summary, the proposed extended power uprate will not result in a significant change in nonradiological plant effluents or terrestrial or socioeconomic impacts and will have no other nonradiological environmental impact.

Radiological Impacts

Radioactive Waste Treatment

Plant Hatch uses waste treatment systems designed to collect, process, and dispose of gaseous, liquid, and solid waste that might contain radioactive material in a safe and controlled manner such that discharges are in accordance with the requirements of Title 10 of the Code of

Federal Regulations (10 CFR) Part 20 and Appendix I to Part 50. These radioactive waste treatment systems are discussed in the FES. The proposed extended power uprate will not affect the environmental monitoring of any of these waste streams or the radiological monitoring requirements contained in licensing basis documents. The proposed extended power uprate does not introduce any new or different radiological release pathways and does not increase the probability of an operator error or equipment malfunction that would result in an uncontrolled radioactive release.

Gaseous Radioactive Waste

During normal operation, the gaseous effluent treatment systems process and control the release of gaseous radioactive effluents to the site environs, including small quantities of noble gases, halogens, particulates, and tritium, such that routine offsite releases from station operation are below the limits in 10 CFR Part 20 and Appendix I to Part 50 (10 CFR Part 20 includes the requirements of 40 CFR Part 190). The gaseous waste management systems include the offgas system and various building ventilation systems. Assuming noble gas generation rates and the radioactivity contribution from halogens, particulates, and tritium are approximately proportional to the power increase (8 percent), a small increase in gaseous effluents due to extended power uprate will occur. The staff has evaluated information provided by the licensee and concludes that the estimated dose values will still be below Appendix I requirements after the extended power uprate and the dose impact will be a small increase (less than 8 percent) for the gaseous pathway compared to the present analysis of record for the plant.

Liquid Radioactive Waste

The liquid radwaste system is designed to process, and recycle to the extent practicable, the liquid waste collected such that annual radiation doses to individuals from each unit resulting

from routine liquid waste discharges are maintained below the guidelines in 10 CFR Part 20 and 10 CFR Part 50, Appendix I. Liquid effluents are continuously monitored and discharges are terminated if effluents exceed preset radioactivity levels. Extended power uprate conditions will not result in significant increases in the volume of liquid from the various sources to the liquid radwaste system. The single largest source of liquid and wet solid waste is the backwash of the condensate demineralizers. With extended power uprate, the average time between backwash and precoat will be reduced slightly. The floor drain collection subsystem and the waste collection subsystem both receive periodic inputs from a variety of sources; however, neither subsystem is expected to experience a significant increase in the total volume of liquid radwaste due to operation at extended power uprate conditions.

During normal operation, treated high-purity radwastes are normally routed to condensate storage for reuse. Treated floor drain wastes can also be routed to condensate storage, to the extent practical, consistent with reactor water inventory and reactor water quality requirements. Treated floor drain and chemical wastes are discharged into the cooling tower blowdown discharge pipe after being sampled to ensure discharge pipe concentrations after dilution are within applicable limits.

The activated corrosion products in liquid wastes are expected to increase proportionally to extended power uprate (approximately 8 percent). However, the total volume of processed waste is not expected to increase appreciably, since the only significant increase is due to the more frequent backwashes of the condensate demineralizers. The staff concludes that information submitted by the licensee shows that there will be no significant dose increase in the liquid pathway resulting from the proposed extended power uprate.

Solid Radioactive Waste

The solid radioactive radwaste system collects, monitors, processes, packages, and provides temporary storage facilities for radioactive solid wastes prior to offsite shipment and permanent disposal. Plant Hatch has implemented procedures to assure that the processing and packaging of solid radioactive waste is accomplished in compliance with the Commission's regulations.

Wet Wastes: Wet wastes, consisting primarily of spent demineralizer resins and filter sludges, are accumulated in phase separators and waste sludge tanks, which serve as storage and batching tanks for the wet solid radwaste system.

The largest volume contributors to radioactive solid waste are the spent resin and filter sludges from the process wastes. Equipment wastes from operation and maintenance activities, chemical wastes, and reactor system wastes also contribute to solid waste generation. Extended power uprate conditions may involve a slight increase in the process wastes generated from the operation of the reactor cleanup filter demineralizers, fuel pool filter demineralizers, and the condensate filter demineralizers. More frequent reactor water cleanup backwashes are expected to occur under extended power uprate conditions due to water chemistry limits. Extended power uprate will not involve changes in either reactor water cleanup flow rates or filter performance.

The principle effect of extended power uprate upon the condensate demineralizer system is increased condensate flow and, consequently, the condensate vessel differential pressure limit being reached more frequently, resulting in reduced run times. Without any modification, the spent resin generation from the condensate demineralizers would be expected to increase. However, to offset this, Plant Hatch is adopting the use of pleated filter elements in the demineralizer vessels. Use of pleated filters will double the run times to about 50 days using

current demineralizer flow rates. Also, use of pleated filters allows precoating with less resin, resulting in a 50 to 60 percent reduction in resin usage. In conjunction with the adoption of pleated filters, Plant Hatch is installing an air surge system, which increases the energy of the backwash, enhancing the ability to flush material out of the filters and extending the life of demineralizer filters. These modifications will serve to minimize the amount of wet radwaste. The staff concludes that implementation of the proposed extended power uprate is not likely to have a significant impact on the volume or activity of wet radioactive solid wastes at Plant Hatch.

Dry Wastes: Dry wastes consist of air filters, miscellaneous paper and rags from contaminated areas, contaminated clothing, tools and equipment parts that cannot be effectively decontaminated, and solid laboratory wastes. The activity of much of this waste is low enough to permit manual handling. Dry wastes are collected in containers located throughout the plant, compacted as practicable, and then sealed and removed to a controlled-access enclosed area for temporary storage. Because of its low activity, dry waste can be stored until enough is accumulated to permit economical transportation to an offsite processing facility or a burial ground for final disposal. The staff concludes that implementation of the proposed extended power uprate should not have a significant impact on the volume or activity of the dry solid radioactive wastes at Plant Hatch.

Irradiated Reactor Components: This waste consists primarily of spent reactor control rod blades, fuel channels, incore ion chambers, and large pieces of equipment. Because of the high activation and contamination levels, reactor equipment waste is stored in the spent fuel storage pool to allow for sufficient radioactive decay before removal to inplant or offsite storage and final disposal in shielded containers or casks. Because of the mitigating effects of extended burnup and increased U-235 burnup, implementing the extended power uprate is not

likely to have a significant impact on the number of irradiated reactor components discharged from the reactor.

Dose Consideration

Inplant Radiation: Increasing the rated power at Plant Hatch may result in a potential increase in radiation sources in the reactor coolant system. The increased flow of reactor coolant and feedwater needed for the increased power level may result in changing patterns of erosion and corrosion in various locations in the reactor coolant system. This may result in the shifting of corrosion products throughout the reactor coolant system and a corresponding shift in dose rates in the vicinity of reactor coolant piping and components. In addition, the increased core average flux may result in an increase in the concentration of N-16 and activated corrosion products in the reactor coolant system.

The licensee has implemented several programs in the last few years that will serve to counteract any potential increases in dose rates resulting from a power uprate. The licensee initiated a zinc injection program in 1990 and a cobalt reduction program in 1993. These programs, which are intended to reduce the level of activated corrosion products in the reactor coolant system and to inhibit the further buildup of corrosion products in reactor coolant system piping, resulted in a greater than 400 percent reduction in the reactor coolant cobalt-60 and zinc-65 concentrations between 1993 and 1997. The licensee also performed chemical decontaminations on Unit 1 in 1991 and 1996 to reduce radiation fields in the reactor auxiliary systems. As a result of the chemical decontaminations and other initiatives described above, dose rates surrounding certain reactor coolant system components were reduced by as much as 40 percent.

To counteract any potential increases in plant doses due to the increase in N-16 levels in the reactor coolant from a power uprate, the licensee performed plant shielding reviews of

potentially affected plant areas. Those target areas identified were modified to maintain radiation levels within acceptable levels.

Weekly surveillance data collected since 1990 indicates that the actual reactor water fission and corrosion product activity levels at Plant Hatch are approximately 5 percent of the activity levels assumed in the Plant Hatch original licensing basis. In addition, the average collective dose per reactor at Plant Hatch for the past 5 years has been well under the 500 person-rem value contained in the FES. The 3-year average collective dose per reactor at Plant Hatch has been trending downwards since 1990. In recent years (1991-95), occupational doses have averaged about 0.7 person-cSv (person-rem) per megawatt-year, which is consistent with doses at other boiling water reactors.

On the basis of the preceding information, the staff concludes that the expected annual collective dose for Plant Hatch, following the proposed extended power uprate, will still be bounded by the dose estimate contained in the FES.

Offsite Doses: The staff has reviewed SNC's offsite dose analysis that was provided to demonstrate that Plant Hatch can meet the offsite effluent release requirements of as low as reasonably achievable. The staff has also reviewed actual liquid and gaseous effluent release data, in conjunction with current dispersion/deposition data and periodic land/population/biota usage survey information. It is not likely that the doses to offsite individuals due to normal operational liquid effluent releases will exceed the estimated liquid effluent dose values currently outlined in the final safety analysis reports (FSARs) for Plant Hatch. The doses from airborne effluents are calculated to be increased from the calculated values in the FSARs by about 2.4 percent for the total body and 7.3 percent for the child's thyroid but the relevant dose criteria will be met. The staff concludes that the estimated doses from both the liquid and

gaseous release pathways resulting from extended power uprate conditions are well within the design objectives specified in 10 CFR Part 50, Appendix I, and the limits of 10 CFR Part 20.

Accident Consideration

The staff has reviewed the licensee's analyses and has performed confirmatory calculations to verify the acceptability of the licensee's calculated doses under accident conditions. The staff concludes that the proposed extended power uprate will not significantly increase the probability or consequences of accidents and will not result in a significant increase in the radiological environmental impact of Plant Hatch under accident conditions. The results of the staff's calculations will be presented in the safety evaluation to be issued with the license amendment.

Fuel Cycle and Transportation Impacts

Extended power uprate is expected to involve an increase in the bundle average enrichment of the fuel. The environmental impacts of the fuel cycle and of transportation of fuel and wastes are described in Tables S-3 and S-4 of 10 CFR 51.51 and 10 CFR 51.52, respectively. An additional NRC assessment (53 FR 30355, dated August 11, 1988, as corrected by 53 FR 32322, dated August 24, 1988) evaluated the applicability of Tables S-3 and S-4 to higher burnup cycles and concluded that there is no significant change in environmental impact for fuel cycles with uranium enrichments up to 5 weight percent U-235 and burnups less than 60 GWd/MTU from the parameters evaluated in Tables S-3 and S-4. Because the fuel enrichment for the extended power uprate will not exceed 5 weight percent U-235 and the rod average discharge exposure will not exceed 60 GWd/MTU, the environmental impacts of the proposed extended power uprate will remain bounded by these conclusions and are not significant.

Summary

In summary, the proposed extended power uprate will not significantly increase the probability or consequences of accidents, will not introduce any new radiological release pathways, will not result in a significant increase in occupational or public radiation exposure, and will not result in significant additional fuel cycle environmental impacts. Accordingly, the Commission concludes that there are no significant radiological environmental impacts associated with the proposed action.

Alternatives to Proposed Action

Since the Commission has concluded that there is no significant environmental impact associated with the proposed action, any alternatives with equal or greater environmental impact need not be evaluated. However, as an alternative to the proposed action, the staff did consider denial of the proposed action. Denial of the proposed action would result in no change in the current environmental impacts of plant operation but would restrict operation to the currently licensed power level. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the Final Environmental Statement for the Edwin I. Hatch Nuclear Plant, Units 1 and 2.

BASIS AND CONCLUSIONS FOR NOT PREPARING AN EIS

The staff has reviewed the proposed extended power uprate for the Edwin I. Hatch Nuclear Plant, Units 1 and 2, relative to the requirements set forth in 10 CFR Part 51. Based on its environmental assessment, the staff concludes that there are no significant radiological or nonradiological impacts associated with the proposed action and that the proposed license amendment would not have a significant effect on the quality of the human environment.

Therefore, the Commission has determined, pursuant to 10 CFR 51.31, not to prepare an EIS for the proposed amendment but to prepare this draft environmental assessment and finding of no significant impact.

For further details with respect to the proposed action, see the licensee's letter dated August 8, 1997, as supplemented by letters dated March 9, May 6, July 6, and July 31, 1998, and the information submitted by letter dated April 17, 1997, in advance of the licensee's application, all of which are available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW, Washington, DC, and at the local public document room located at the Appling County Public Library, 301 City Hall Drive, Baxley, Georgia.

Dated at Rockville, Maryland, this 21st day of August 1998.

FOR THE NUCLEAR REGULATORY COMMISSION



David H. Jaffe, Acting Director
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