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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Edwin I. Hatch Nuclear Plant
Request for Partial Waiver of Fees for
License Renewal Application Review

Ladies and Gentlemen:

By letter dated October 27, 1997, Southern Nuclear Operating Company (SNC) requested a partial waiver of review fees associated with the application for renewed operating licenses for Plant Hatch, Units 1 and 2. By letter dated May 3, 1998, the NRC replied that if the Hatch submittal, or portions thereof, met the criteria for a fee waiver as set forth in 10 CFR Part 170, the staff would account for that time separately and no fee would be assessed. To date, SNC has been assessed review charges for all of the staff's review time.

Using the criteria of the NRC's May 3, 1998 letter, SNC has evaluated the basis for a fee waiver for the Hatch application and has concluded that a partial fee waiver of 40% is appropriate. This evaluation is enclosed. Therefore, SNC hereby requests such a fee waiver and that the staff take appropriate measures to account for its time so that such a waiver is realized.

Under 10 CFR 170.21, a fee waiver is appropriate for information submitted "as a means of exchanging information between industry organizations and the NRC for the purpose of supporting generic regulatory improvements or efforts." In adopting this regulation, the NRC made reference to information provided by specific organizations that supports "NRC's development of generic guidance and regulations . . . and resolution of safety issues applicable to a class of licensees," [59 Federal Register 36,895, 36,904 (July 20, 1994)]. As demonstrated by SNC's enclosed evaluation, the proposed fee waiver is warranted because the development of the Hatch renewal application and other industry contributions by SNC in connection therewith have aided the NRC in its efforts to improve the license renewal process, including the resolution of important issues relating to safety that will inevitably be relevant to other licensees.

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The enclosed evaluation addresses two areas which highlight the unique or first of a kind aspects of the Hatch license renewal program that have contributed to improving the license renewal process and have resolved important issues that will be relevant to other licensees. First, SNC is the first license renewal applicant that utilizes a Boiling Water Reactor (BWR). Second, there are generic BWR and industry license renewal issues that have been identified and are being addressed through the Hatch application. In addition, the evaluation notes the contributions made by SNC to the efforts of the NRC and stakeholders to make the license renewal process more efficient, further supporting a fee waiver.

If you have any questions concerning this request, please contact this office.

Respectfully submitted,

Lewis Sumner

H. L. Sumner, Jr.

HLS/JAM

Enclosure: Evaluation in Support of Fee Waiver Request

cc: Southern Nuclear Operating Company
Mr. P. H. Wells, Nuclear Plant General Manager
Mr. C. R. Pierce, License Renewal Services Manager

U. S. Nuclear Regulatory Commission, Washington, D.C.
Mr. C. I. Grimes, Branch Chief, License Renewal and Standardization Branch
Mr. L. N. Olshan, Project Manager-Hatch
Mr. W. F. Burton, Project Manager-Hatch License Renewal
Mr. W. D. Travers, Executive Director for Operations

U. S. Nuclear Regulatory Commission, Region II
Mr. L. A. Reyes, Regional Administrator
Mr. J. T. Munday, Senior Resident Inspector-Hatch

ENCLOSURE 1
Evaluation in Support of Fee Waiver Request

SNC concludes that the lessons learned during the review of the Hatch License Renewal Application (LRA) justify the proposed partial waiver of NRC review fees. In addition, SNC believes that its contributions to the combined efforts of the NRC and stakeholders to make the license renewal process more efficient further support our justification for a fee waiver.

The areas evaluated are as follows:

- significant design differences between the Boiling Water Reactor (BWR) and the Pressurized Water Reactor (PWR);

- generic BWR and industry license renewal issues identified by the Hatch application;

- contributions of SNC to the industry and to license renewal standardization efforts.

Each of these is discussed below.

Design Differences

The design differences between the BWR and PWR result in significant differences in all aspects of preparing a license renewal application. Table 1 (attached) compares the Hatch application with the previous PWR applications. The table shows those sections of the Hatch application that are related to both PWRs and BWRs and those sections of the Hatch application that are primarily BWR related. Even in those cases where the Hatch application is similar to the previous PWR applicants as shown in the table, there may be BWR-unique differences in environments and materials. The most significant differences with regard to license renewal are:

- BWR containment design
- BWR reactor vessel
- BWR reactor coolant systems
- BWR engineered safety features (ESF) systems
- BWR auxiliary systems
- BWR steam and power conversion systems
- BWR time-limited aging analyses (TLAAs)

Containment Design

The NRC has not previously reviewed a BWR containment for an LRA. The Hatch containment design is typical of BWR Mark I containments. The primary containment system of a BWR houses the reactor pressure vessel, the reactor coolant recirculation system, and other branch connections of the reactor coolant system. The primary containment is a pressure suppression system consisting of a drywell, pressure suppression chamber which stores a large volume of water, and a connecting vent system between the drywell and pressure suppression chamber. Other systems associated with the primary containment include the primary containment isolation valves, vacuum relief system, and containment cooling systems. The drywell is a steel pressure vessel in the shape of a light bulb, and the pressure suppression chamber is a torus-shaped steel pressure vessel located below and encircling the drywell. Several BWR-unique scoping and aging management issues are being reviewed in the Hatch LRA. The BWR-unique combination of materials and environments associated with the torus are receiving initial NRC review with the Hatch LRA.

The BWR also has a secondary containment not normally associated with PWRs. The secondary containment system (and its associated ventilation systems including the standby gas treatment system) is an additional barrier which encloses the primary containment system and other nuclear systems.

Reactor Vessel

The NRC has not previously reviewed a BWR reactor vessel for an LRA. The BWR reactor vessel and internals arrangement are different from a PWR. Control rods enter the vessel from the bottom, and a reactor recirculation system is utilized to provide variable coolant flow to the reactor core to control power level.

Scoping and aging management of the reactor and internals are described and governed by the BWR Vessel and Internals Project (BWRVIP). Plant Hatch worked with the BWRVIP to formulate a process to apply the BWRVIP products to license renewal and is now pioneering the concept of using the BWRVIP for license renewal. Use of the BWRVIP greatly reduces the effort required to analyze the vessel and internals for license renewal because under this program the requirements for managing these aging effects have already been determined with an assumed 60-year life.

Reactor Coolant Systems

The NRC has not previously reviewed BWR-unique reactor coolant systems for an LRA. The primary BWR reactor coolant system which is different from a PWR is the reactor recirculation system. The environmental conditions associated with the recirculation system components are unique to BWRs. Water chemistry management is also substantially different than for a PWR.

Engineered Safety Features (ESF) Systems

The NRC has not previously reviewed BWR-unique ESF systems for an LRA. The primary ESF systems which are different from a PWR include:

- high pressure coolant injection (HPCI),
- reactor core isolation cooling (RCIC),
- core spray,
- automatic depressurization (ADS),
- low pressure coolant injection mode of residual heat removal (RHR),
- standby gas treatment (SBGT),
- standby liquid control (SLC), and
- primary containment isolation system (PCIS).

Each of these systems presents BWR-unique scoping and aging management issues.

Auxiliary Systems

The NRC has not previously reviewed BWR-unique auxiliary systems for an LRA. The BWR auxiliary systems which are different from a PWR include:

- drywell pneumatic system,
- control rod drive system,
- drywell cooling systems, and
- tornado vents.

Each of these systems presents BWR-unique scoping and aging management issues.

Steam and Power Conversion Systems

The NRC has not previously reviewed BWR-unique steam and power conversion systems for an LRA. While the main condensers for both PWRs and BWRs operate in a similar manner, the main condenser for Hatch Unit 2 was determined to be in scope because of unit-specific licensing basis issues related to the post-accident radioactive decay holdup function, which previous applicants did not have to consider.

Time-Limited Aging Analyses

The NRC has not previously reviewed BWR-unique time-limited aging analyses for an LRA. The Hatch application contained the following BWR-unique time-limited aging analyses:

- pipe stress for BWR Class 1 piping
- corrosion allowance for a BWR
- reactor vessel and internals
- torus fatigue

In addition, SNC is dealing with several aspects of TLAAs that had not been encountered with previous applicants. For example, unlike previous applicants SNC does have stress analyses which use cumulative usage factors (CUF) as a screening tool associated with the original determination of postulated break locations. SNC had dispositioned this as not being a TLAA and is now addressing that area specifically with the NRC. The resolution of this issue has generic implications for the remainder of the industry.

Generic Issues

Generic issues, which are being newly addressed in the Hatch LRA, or are being handled differently from previous applicants during the development and review of the Hatch application include but are not limited to:

- aging management of piping insulation
- scoping of nonsafety-related pipe supports and piping
- environmentally-assisted fatigue

In addition, there are generic issues, such as the handling of complex active assemblies, which SNC is pursuing with NRC and NEI. Each of these issues is discussed below.

Piping Insulation

Piping insulation was identified in the Hatch application as a commodity requiring aging management. The NRC staff has indicated that information and lessons learned related to this topic during the review of the Hatch application will be useful in the review of subsequent license renewal applications.

Scoping of Pipe Supports

The scoping of pipe supports for nonsafety-related piping was identified as an issue in the review of the Hatch application due to the potential seismic II/I issues involved. Resolution of the issues raised associated with this topic are expected to have broadly generic implications.

Environmentally-Assisted Fatigue

Plant Hatch has pioneered a conservative generic methodology to manage the effects of the reactor water environment on fatigue. This approach has been included in the draft Materials Reliability Project (MRP) guidelines document as an acceptable way for any plant to monitor fatigue in the renewal period. The Hatch-specific method (counting cycles and updating CUF) is given as an example. Thus, Plant Hatch is the lead plant for a generic methodology that is being developed to address an NRC request to the industry.

SNC Contributions to the License Renewal Process

SNC has been active in license renewal since the early nineties, and participated in the NRC license renewal demonstration project in 1996. SNC has been a significant contributor to the industry's efforts to standardize the license renewal process. SNC is an active member of the Nuclear Energy Institute (NEI) Working Group on License Renewal and the NEI Task Force on License Renewal. SNC maintains an active presence on discipline-specific license renewal industry working groups.

The extensive work SNC performed in the area of TLAAs was compiled and published as an EPRI document, TR-110042. This document is available to the industry as an aid in identifying and updating TLAAs in accordance with the rule requirements.

SNC was a significant contributor to the industry's efforts to review and provide comments on the Generic Aging Lessons Learned Report (GALL) and the Standard Review Plan (SRP) for a License Renewal Application. SNC contributed more than 1000 professional staff hours to this effort. As the first two applications underwent NRC review, SNC developed an alternate application format for Hatch which relies much more on the evaluation of commodity groups for the determination of aging effects. This alternate application format permitted the NRC to see a different method for presenting the information required to demonstrate compliance with the license renewal rule. Reviewing this commodity-based application format will assist the NRC in the development of a standard application format for future applicants.

Conclusion

SNC concludes that the Hatch license renewal application meets the criteria for a report which will result in generic improvement in the license renewal process for future BWR applicants for the reasons given above, and that a partial fee waiver is appropriate.

Table 1
Comparison of the Hatch Application to the Previous PWR Applications

Section Number	Title	Primarily BWR Related	BWR and PWR Related
1	**Administrative**		X
2.1	**Scoping and Screening Methodology**		X
2.2	**Scoping Results**		X
2.3.	**Mechanical Sys. Screening Results**		
2.3.1	Reactor	X	
2.3.2	Reactor Coolant System	X	
2.3.3	Engineered Safety Features	X	
2.3.4	Auxiliary Systems		X
2.3.5	Steam and Power Conversion	X	
2.4	Structures Screening Results		
2.4.1	Refueling Equipment	X	
2.4.2	Conduits, Raceways, Trays		X
2.4.3	Primary Containment	X	
2.4.4	Fuel Storage	X	
2.4.5	Reactor Building	X	
2.4.6	Drywell Penetrations	X	
2.4.7	RX Bldg. Penetrations	X	
2.4.8	Turbine Building	X	
2.4.9	Intake Structure		X
2.4.10	Yard Structures		X
2.4.11	Main Stack	X	
2.4.12	EDG Building		X
2.4.13	Control Building		X
2.5	**Electric Power and I&C Screening Results**		X
3.0	**AMR Results**		
3.1	Common AMPs		X
3.2	**Mechanical Systems**		
3.2.1	Reactor	X	
3.2.2	Reactor Coolant Systems	X	
3.2.3	ESF Systems	X	
3.2.4	Auxiliary Systems		X
3.2.5	Steam, Power Conversion	X	
3.3	**Civil/Structural**		X
3.4	**Electrical**		X
4	**Time-Limited Aging Analyses**		
4.1.1	TLAA Identification		X
4.2	Pipe Stress		X
4.2.4	Torus Fatigue	X	
4.3	Corrosion Allowance		X
4.4	EQ		X
4.5	Containment Pressurization Cycles	X	
4.6	Reactor Vessel TLAAs	X	