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SOUTHERN COMPANY
Energy to Serve Your World℠

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HL-5979

Docket Nos. 50-321
50-366

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

Edwin I. Hatch Nuclear Plant Units 1 and 2
Response To License Renewal Requests for Additional Information

Gentlemen:

By letters dated July 14, 2000 and July 28, 2000, the NRC requested additional information related to the review of the license renewal application for the Edwin I. Hatch Nuclear Plant, Units 1 and 2. By this letter SNC submits responses to the requests for additional information (RAIs) contained in both letters related to Section 2 of the application, which are the RAIs related to scoping and screening.

If you have any questions regarding this matter, please contact R. D. Baker at (205) 992-7367.

Respectfully submitted,

Lewis Sumner

H. L. Sumner, Jr.

HLS/JAM

Enclosure: Response to Requests for Additional Information Related to Scoping and Screening
Dated July 14, 2000 and July 28, 2000

A083

cc: Southern Nuclear Operating Company
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Mr. C. R. Pierce, License Renewal Services Manager
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U. S. Nuclear Regulatory Commission, Washington, D.C.
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U. S. Nuclear Regulatory Commission, Region II
Mr. L. A. Reyes, Regional Administrator w/o enclosure
Mr. J. T. Munday, Senior Resident Inspector – Hatch

ATTACHMENT 1

EDWIN I. HATCH NUCLEAR PLANT

DOCKETS 50-321, 50-366

OPERATING LICENSES DPR-57, NPF-5

LICENSE RENEWAL APPLICATION

RESPONSE TO REQUESTS FOR ADDITIONAL INFORMATION

RELATED TO SCOPING AND SCREENING

DATED JULY 14, 2000 AND JULY 28, 2000

Table of Contents

INTRODUCTION

By letters dated July 14, 2000 and July 28, 2000, the Nuclear Regulatory Commission (NRC) requested additional information (RAI) from Southern Nuclear Operating Company (SNC) to support the review and approval of the E. I. Hatch Nuclear Plant License Renewal Application (LRA). This attachment provides SNC's responses to the 103 RAIs related to Section 2 of the application. Section 2 of the LRA presents the scoping and screening methodology and the scoping and screening results.

With few exceptions, each RAI response is presented in enough detail to stand alone without reference to other RAI responses. Only in a small number of cases does an RAI refer to another response. The entire SNC response to each RAI is contained in this document. Based on NRC guidance, the annual update of the LRA will only contain changes that result from changes to the current licensing basis (CLB) of Plant Hatch.

ACRONYMS AND ABBREVIATIONS

The following acronyms or abbreviations are used throughout the RAI responses. Acronyms or abbreviations used by NRC in the RAIs have not been added to this list. Because of the repetitive nature of RAI responses, the usual approach of spelling out the phrase for an acronym or abbreviation the first time is not used. The table on the following page presents the acronyms and abbreviations that are used throughout this document.

Table 1
Acronyms and Abbreviations

A/C	*Alternating current*
AI	*Atomics International*
AMR	*Aging management review*
AOO	*Abnormal operational occurrence*
ARI	*Alternate rod insertion*
ASME	*American Society of Mechanical Engineers*
BTP	*Branch Technical Position*
BWR	*Boiling Water Reactor*
BWRVIP	*Boiling Water Reactor Vessel and Internals Project*
CLB	*Current licensing basis*
CFR	*Code of Federal Regulations*
CRD	*Control rod drive*
CST	*Condensate storage tank*
DBA	*Pipe class - Section III, Class 1 carbon steel*
Delta-P	*Differential pressure*
DOT	*Department of Transportation*
EAD	*Pipe class - USAS B31.1 upgraded, stainless steel*
EDG	*Emergency diesel generator*
EHC	*Electro-hydraulic control*
FHA	*Fire Hazards Analysis*
FSAR	*Final Safety Analysis Report (also Updated Final Safety Analysis Report)*
ESF	*Engineered safety features (or engineered safeguard features)*
HEE	*Pipe class - USAS B31.1, carbon steel*
HELB	*High energy line break*
HEPA	*High efficiency particulate arresting*
HPCI	*High pressure coolant injection*
HVAC	*Heating, ventilation, and air conditioning*
IGSCC	*Intergranular stress corrosion cracking*
LOCA	*Loss-of-coolant accident*
LPCI	*Low pressure coolant injection*
LRA	*License renewal application*
LRNBP	*Load rejection with no bypass*
MCR	*Main control room*
MCRECS	*Main Control Room Environmental Control System*
MPL	*Master parts list*
MSIV	*Main steam isolation valve*
NEI	*Nuclear Energy Institute*
NFPA	*National Fire Protection Association*
NRC	*Nuclear Regulatory Commission*
NSOA	*Nuclear Safety Operational Analysis*
RAI	*Request for additional information*
RCIC	*Reactor core isolation cooling*
RHR	*Residual heat removal*
RPV	*Reactor pressure vessel*
SCC	*Structures, components, and commodities*
SDV	*Scram discharge volume*

Table 1 (Continued)
Acronyms and Abbreviations

SED	*System Evaluation Document*
SER	*Safety evaluation report*
SGTS	*Standby Gas Treatment System*
SLC	*Standby liquid control*
SNC	*Southern Nuclear Operating Company*
SRV	*Safety-relief valve*
SSC	*System, structure, or component*
TIP	*Traversing in-core probe*
TTNBP	*Turbine trip with no bypass*

RAI - 2.1 - SSM – 1:

During the scoping and screening methodology audit conducted at the E. I. Hatch Nuclear Plant (Hatch) on June 12 through 15, 2000, the audit team reviewed the following implementation procedures: (1) LRS 1-1, "Revisions and Distribution of the License Renewal Services Procedures Manual," Revision 2, (2) LRS 1-2, "Scoping Procedure," Revision 2, (3) LRS 1-3, "Plant Hatch Scoping Template," Revision 5, (4) LRS 1-4, "Boundary Procedure," (5) LRS 1-5, "Civil/Mechanical Structure/Component Screening Procedure," and (6) LRS 1-8, "Electrical IPA Procedure."

Based on our review of these procedures and from our discussions with Hatch personnel, the audit team identified certain discrepancies between the scoping and screening process described in the procedures and the actual process that was followed. Specifically, the procedures did not provide a clear description and account of all essential activities in the scoping and screening process nor did they clearly portray the sequence in which these activities were actually accomplished.

While the audit team determined that the procedures reviewed in combination with the review of a sample of scoping and screening products (supplemented by discussions with the Hatch personnel directly involved in the development of such products) provided adequate evidence that the scoping and screening process was conducted in accordance with the requirements of 10 CFR 54.4, "Scope," and 10 CFR 54.21, "Contents of Application — Technical Information," the team also concluded that the Hatch licensee (applicant) needs to update these procedures to reflect the actual scoping and screening process upon which the applicant will rely to satisfy the requirements of 10 CFR 54.35, "Requirements During the Term of Renewed License."

Therefore, the applicant is requested to confirm that the Plant Hatch license renewal procedures will be updated to clearly reflect the actual scoping and screening process used for both the current application as well as future updates to the application based on changes to the current licensing basis, and to specify the time-frame during which this update will be accomplished.

RESPONSE TO RAI - 2.1 - SSM – 1:

During the scoping methodology audit June 12 - 15, 2000, SNC committed to expand the existing procedures from a goal-oriented approach to a more detailed presentation of the steps employed so that the scoping and screening processes are more clearly identified in the procedure steps. These revised procedures will be used for the LRA update required by 10 CFR 54.21(b). The revised procedures will be in place prior to performing the first required LRA update. SNC plans to have the revised procedures in place by September 11, 2000.

RAI - 2.1 – 2:

During the audit, the team also learned that the Hatch Nuclear Plant Unit 2 Final Safety Analysis Report (Hatch U2 FSAR) has been amended with Supplement 15C, "Nuclear Safety Operational Analysis." Hatch U2 FSAR, Supplement 15C, is a comprehensive summary of all design basis events, including anticipated operational occurrences, applicable to both Hatch units and represents the culmination of an extensive design basis reconstitution effort at Hatch. However, the Hatch license renewal scoping and screening process was completed before efforts associated with Supplement 15C to the Hatch U2 FSAR were finalized.

Therefore, the applicant is requested to provide information on actions it intends to undertake to ensure that the information relied on to generate the scoping and screening results in accordance with the methodology described in the Hatch LRA is consistent with, and supported by, the design and licensing basis information in Supplement 15C to the Hatch U2 FSAR. The applicant's response should also include a description of the process it intends to follow to address any discrepancies, and a time-frame for completing this activity.

RESPONSE TO RAI - 2.1 – 2:

SNC informally reviewed the draft NSOA during preparation of the Hatch LRA. However, the document was not used as an "official" source of information due to its draft status. Now that the document has been incorporated into the CLB by virtue of its inclusion in the Hatch Unit 2 FSAR, Supplement 15C, SNC will evaluate the NSOA using the scoping criteria of 10 CFR 54.4 to determine whether additional SSCs should be brought in scope based on the NSOA event sequences. The results of this evaluation will be documented internally, and any additions to the LRA will be provided to NRC in the scheduled annual update.

RAI - 2.2 - SR – 1:

Title 10, Part 54, Section 4 of The Code of Federal Regulations (10 CFR 54.4) defines the structures systems and components (SSCs) that are within the scope of license renewal. The license renewal application (LRA) is required to include an integrated plant assessment (IPA) in accordance with 10 CFR 54.21. 10 CFR 54.21 further states that the "IPA must --

(1) For those systems, structures, and components within the scope of this part, as delineated in §54.4, identify and list those structures and components subject to an aging management review. Structures and components subject to an aging management review shall encompass those structures and components --

(i) That perform an intended function, as described in §54.4, without moving parts or without a change in configuration or properties."

In the Hatch LRA, Table 2.2-1 provides the results of the applicant's review to determine which SSCs are within the scope of license renewal. The table defines which systems are within the scope of license renewal based on the functions of each system. Our review has identified several systems which clearly have functions that are not shown in Table 2.2-1, but would place these systems within the scope of license renewal. In fact, Table 2.2-1 states that these systems are not in the scope of license renewal. For example, the main steam (system number N11), feedwater (system number N21), and reactor water cleanup (system number G31) systems all have a reactor coolant system pressure boundary function that places them within the scope of license renewal as defined in 10 CFR 54.4. However, this function is not listed for any of these systems in Table 2.2-1, and the table incorrectly indicates that these systems have no functions that are within the scope of license renewal. After further review by the staff, this function for these systems is apparently captured under a separate system; the nuclear boiler system (system number B21) under function number B21-02 (Reactor Coolant Pressure Boundary Integrity). We recognize that the applicant's method of capturing systems in the license renewal scope is through the system function; however, the table appears to inadequately capture all relevant system functions for every system listed. Therefore, the applicant is requested to provide a revised table that: (1) lists all functions that are in the scope of license renewal for each system, (2) correctly indicates the functions that place each system within scope, and (3) provides a means by which the reviewer can correlate the function with the section of the LRA that provides the system description and the list of structures/components subject to aging management review based on that function. For instance, if function B21-02, "Reactor Coolant System Pressure Boundary Integrity," were listed under the Main Steam system, then the table would correctly indicate that the Main Steam system is in scope, but that the function of concern is covered under the nuclear boiler system (system number B21).

RESPONSE TO RAI - 2.2 - SR – 1:

On page 2.2-1 of the LRA, SNC indicated the purpose for and contents of Table 2.2-1. The LRA reads

> "Table 2.2-1 presents the results of the Plant Hatch plantwide scoping of systems/structures and functions. Each function is identified as either in scope or not in scope. Due to the cross-system nature of functions, each function has

> been assigned to a primary system or structure. However, in many cases the functional boundaries extend into other systems or structures as well. As was described in the scoping/screening methodology, Section 2.1, screening of structures/components was performed within functional boundaries. Structures or other features not bearing a system number were assigned to a system or structure and scoped with that system or structure."

Thus, rather than defining which systems are within the scope of license renewal based on the functions of each system, as stated in the RAI, Table 2.2-1 presents a list of functions and identifies which are intended functions per the definition in Part 54.4 of the Rule. The System Numbers listed on the table are labels and act as a tag, as described above. They are provided as a point of reference for convenience.

SNC recognizes that the NRC staff is accustomed to presentation of information using a system-oriented approach. However, through discussions with NRC prior to submittal of the application, SNC was informed that the function-oriented mode of presentation would be acceptable to NRC. During the early stages of the LRA review, it was identified that a cross-index of systems and functions would be useful, from a review efficiency perspective. On May 24, 2000, SNC provided NRC with two matrices that contain this cross-index. One matrix mapped systems to functions and the other mapped functions to systems. These matrices provide the capability to efficiently identify the functions that are in scope for any given system and conversely, the systems associated with any given in-scope function.

Each in-scope function in Table 2.2-1 has a function number. The first three digits - up to the dash - provide the primary system tag to be associated with the function, as discussed on page 2.2-1 of the LRA. A corresponding table is provided for each of these labels in Sections 2.3 through 2.5. These tables identify the components supporting the intended functions. The system descriptions provided in the text associated with each table, as stated in each subsection, provide general information as an aid in the review of the LRA. However, it is the intended function text associated with each of these tables that identifies the nature of the intended function so that an evaluation boundary can be defined and components assessed within that boundary. Each of the Section 2.3 - 2.5 tables, then, contains the list of structures/components subject to aging management review based on their associated functions.

RAI 2.2-SR-2:

In Table 2.2-1, system number P64, Primary Containment Chilled Water System (Unit 2 only) is listed as having two functions: 1) Reactor Building/Radwaste Building Cooling and 2) Drywell Cooling. The Table also indicates that the system is in the scope of license renewal because of its drywell cooling function. However, Section 2.3.4.10 of the Hatch LRA states that the system is in scope because it has a function of maintaining containment integrity, not because of the drywell cooling function. Please clarify the system functions and the associated bases for concluding that this system is within the scope of license renewal (See related question in RAI 2.3.4.10-Primary Containment Chilled Water-1).

RESPONSE TO RAI 2.2-SR-2:

In Table 2.2-1, the column titled Function Number/Name provides an alphanumeric label and a short title for each function as a means of identifying the functions. The actual function descriptions are provided in the corresponding Section 2.3 through 2.5 texts. Thus, the in-scope function descriptions for the P64 functions are provided in Section 2.3.4.10, page 46, which indicates that the basis for concluding function P64-02 is in scope is for containment integrity; that is, due to a pressure boundary function.

RAI - 2.2 - SR - 3:

Table 2.2-1 lists two functions for system number L36, Insulation. The first function, number L36-01, is entitled "Equipment and Piping Insulation - Inside Drywell." This function is shown on the table as not within the scope of license renewal. 10CFR54.4 defines the criteria for determining which SSCs are within the scope of license renewal. Specifically, 10CFR54.4 states, in part, that all nonsafety-related SSCs whose failure could directly prevent satisfactory accomplishment of any of the three required functions designated in the rule for safety-related SSCs are within the scope of license renewal. One of the required functions designated in the rule for safety-related SSCs is the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposure comparable to the 10CFR100 guidelines. Section 3.6.1.5 of the Hatch Technical Specifications for both units require that the drywell average temperature be maintained below 150 degrees Fahrenheit (°F). In addition, the bases section for this drywell temperature requirement states that this temperature limit is necessary to ensure that peak accident temperatures are maintained below the drywell design temperature. This ensures that the containment can perform its design function. Logically, it is reasonable to conclude that piping and equipment insulations are important components for ensuring the plant's ability to meet the drywell technical specification temperature requirement, especially in Unit 1, which does not have drywell coolers. Clearly, the temperature requirement is in the technical specifications so that the containment can perform its accident mitigation function. Please provide the basis for concluding that none of the insulation inside the drywell is within the scope of license renewal.

RESPONSE TO RAI - 2.2 - SR - 3:

Although piping and equipment insulation is an enhancement to help reduce the drywell bulk temperature, it is not relied upon to prevent or mitigate the consequences of an accident. Failure of the nonsafety-related insulation does not prevent satisfactory accomplishment of any of the three required functions designated in the Rule (10 CFR 54.4) for safety related SSCs. The nonsafety-related insulation is not credited for compliance with any of the regulations specified in 10 CFR 54.4. Piping and equipment insulation inside the drywell does not perform an intended function and is not in the scope of license renewal for Plant Hatch.

Existence of a Technical Specification, alone, does not represent a basis for including a function in the scope of license renewal. Technical Specifications provide Limiting Conditions for Operation of the plant. The Plant Hatch Technical Specifications provide for a drywell bulk average temperature limit of 150 degrees Fahrenheit. If the drywell bulk average temperature should exceed the limit, specific actions are required to restore the temperature to below the limit within a specified time period. If the temperature is not restored to below the limit, then the plant must be shut down (placed in Mode 3 or Mode 4 - Technical Specification 3.6.1.5). With the drywell bulk average temperature within the acceptable limit at the onset of a postulated accident, peak accident temperatures cannot exceed the drywell design temperature, and thus the containment design function is preserved. The piping and equipment insulation provides commercial benefit by helping to minimize sensible heat addition to the drywell so that routine plant operation may continue in compliance with temperature limits specified in the plant Technical Specifications.

RAI 2.2-Scoping-4:

10 CFR 54.4 provides the criteria for determining the structures, systems and components (SSCs) that are in the scope of license renewal. One of the criteria is that SSCs are important to license renewal if they are "relied upon to remain functional during and following design basis events...." 10 CFR 50.49 defines design basis events as conditions of normal operation, including anticipated operational occurrences, design basis accidents, external events, and natural phenomena for which the plant must be designed to ensure: 1) the integrity of the reactor coolant pressure boundary, 2) the capability to shut down the reactor and maintain it in a safe shutdown condition, and 3) the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to the 10 CFR 100 guidelines. Section 9.4.6.2.1, of the Hatch, Unit 2, FSAR, states that the Drywell Cooling System is relied on during a loss-of-offsite power (LOSP) event to maintain the Drywell temperature below 165 degrees Fahrenheit. It is logical, therefore, that the Drywell Cooling System would be in the scope of license renewal for its drywell cooling function. However, Table 2-2.1 indicates that the Drywell Cooling System (system number T-47) is not in the scope of license renewal. Please provide the basis for concluding that the Drywell Cooling System is not in scope.

RESPONSE TO RAI 2.2-Scoping-4:

Section 9.4.6.2 of the Unit 2 FSAR presents a general system description of the Drywell Cooling systems. The fan-coil units are designed to be operable post-LOCA, as described in Section 9.4.6.2.1. However, Section 9.4.6.3 provides the safety evaluation for these systems. In Section 9.4.6.3 of the Unit 2 FSAR, both the drywell cooling system and the primary containment chilled water system are described as "not a safety design system." This description is in keeping with the current Plant Hatch licensing and design bases. The Plant Hatch safety analysis does not credit the drywell cooling system for HELB and LOCA design basis accidents, concurrent with a loss-of-offsite power (Ref. Georgia Power Letter to NRC, May 3, 1991). In addition, the drywell cooling system is not relied upon to control drywell temperatures in a Station Blackout. The NRC concurred with these conclusions in Safety Evaluation Reports issued March 5, 1991, and November 1, 1991.

RAI - 2.3.2 - NBS – 1:

Please clarify why the safety relief valve (SRV) discharge lines and its supports have not been identified in Table 2.3.1-2 as component groups requiring an AMR. The staff believes that these structures and components perform the passive function of withstanding significant loads, such as SRV discharges, and that their failure can prevent satisfactory accomplishment of the SRV's intended safety function.

RESPONSE TO RAI - 2.3.2 - NBS – 1:

The SRV discharge lines and supports have been identified in the application as components subject to an AMR. The SRV discharge lines are scoped as part of function B21-01 Pressure Control. The components are shown on boundary diagrams HL-16062 and HL-26000. Table 2.3.1-2 identifies the SRV discharge lines as piping.

The pipe supports for the SRV discharge lines are scoped as part of function L35-01 Pipe Supports, and identified in Section 2.4.1 of the LRA, "Piping Specialties."

Table 2.4.1-1 identifies the pipe supports for the SRV discharge lines as Hangers and Supports for Non-ASME Class 1 Piping, Tubing, and Ducts.

RAI - 2.3.2 - NBS – 2:

Only two intended functions were identified for flow-restricting orifices (refer to Table 2.3.1-2 of the LRA); pressure boundary and fission product barrier. However, some orifices are relied upon to limit mass flow rate during postulated breaks, and loss of material can degrade this function. Provide a justification as to why limiting the mass flow rate during postulated breaks is not an intended function of some orifices, per 10 CFR 54.4(a)(1)(iii), or provide an AMR for the orifices that have an intended function to limit mass flow rate.

RESPONSE TO RAI - 2.3.2 - NBS – 2:

Some orifices are relied upon to limit mass flow rate during postulated breaks. The component function, "Flow restriction", was inadvertently omitted from restricting orifice line items in tables 2.3.1-2 and 3.2.1-2. In addition, the flow restriction elements (venturi) of 1/2B21-N005A-D shown on boundary drawings HL-16062 and HL-26000 are credited to provide flow restriction of the main steam flow to limit mass flow rate during postulated breaks. Thus, they perform an intended function and are subject to AMR. The following information is provided regarding the main steam line flow restrictors:

Mechanical Component	Component Functions	Material
Main Steam Flow Restrictor - Pipe (Class 1)	Pressure Boundary Fission Product Barrier	Carbon Steel
Main Steam Flow Restrictor - Venturi	Flow Restriction	Cast Austenitic Stainless Steel

Mechanical Component	Component Functions	Environment Effects	Material	Aging Effects	Aging Management Program/Activity
Main Steam Flow Restrictor - Pipe/ C.2.1.1.3 (Class 1)	Pressure Boundary Fission Product Barrier	Reactor Water	Carbon Steel	Loss of Material Cracking	Reactor Water Chemistry Control Inservice Inspection Program Galvanic Susceptibility Inspections Component Cyclic or Transient Limit Program Flow Accelerated Corrosion Program Treated Water Systems Piping Inspections
Main Steam Flow Restrictor- Venturi/C.2.1.1.5	Flow Restriction	Reactor Water	Cast Austenitic Stainless Steel	Loss of Material Cracking	Reactor Water Chemistry Control Component Cyclic Transient Limit Program

RAI - 2.3.2 - RA - 1:

The staff considers that the reactor vessel leakage monitoring piping from the closure head should be subject to an aging management review (AMR) [see letter from C.I. Grimes (NRC) to D.J. Firth (B&W Owner's Group)], dated October 27, 1999). The October 27, 1999 letter describes the staff's reassessment of the conclusion that the innermost O-ring seal is the first pressure boundary. This conclusion is consistent with the staff's guidance for license renewal issue number 98-0012, "Consumables" that was issued to the NEI on April 20, 1999. In this position the staff stated that packing, gaskets, seals, and O-rings are not typically required by the current licensing basis to fulfill the functions of 10 CFR Part 54.4(a)(1)(i) in accordance with ASME, Section III, NB2121, NC2121, and ND2121 because (by design) they are not relied upon for a pressure retaining function in components for which these Code design practices apply. In addition, the staff stated that "applicants can exclude packing, gaskets, seals, and O-rings where there is a clear basis for concluding that such components are not relied upon for a system, structure, or component to perform its intended function (s) under Part 54 . . . ."

Inasmuch as these Code design practices do not apply to the O-ring in the closure head, the sealing surface of the vessel flange does provide the pressure boundary intended function for the closure head. Because the leakage monitoring piping penetrates the sealing surfaces of the vessel flanges, it should be treated as part of the reactor coolant system pressure boundary, and therefore, is within the scope of Part 54.

In Tables 2.2-1 and 2.3.1-1 of the LRA, the reactor vessel leakage monitoring piping was not identified as a component within scope requiring an AMR. On the basis of the discussion made above, identify the reactor vessel leakage monitoring piping as part of the pressure boundary, and accordingly, include it within the scope of license renewal and subject to AMR. If, however, the applicant believes that the component does not require an AMR, provide plant-specific justification as to why the component need not be subject to an AMR.

RESPONSE TO RAI - 2.3.2 - RA - 1:

The RPV leakage-monitoring piping is in scope, shown on the boundary drawings, and evaluated in the LRA.

The reactor vessel leakage monitoring pipe is scoped as part of function "B21-02 Reactor Coolant Pressure Boundary Integrity." The components subject to AMR that support function B21-02, including piping for monitoring reactor vessel head flange seal leakage, are presented in Table 2.3.1-2 of the LRA and shown on boundary diagrams HL-16062 and HL-26000 as in scope under functions 1/2B21-02.

Boundary Diagrams HL-16062 and HL-26000 show 1-inch EAD and DBA lines off the reactor vessel closure head flange as in-scope under functions 1/2B21-02, respectively.

RAI - 2.3.2 - RA - 2:

In Table 2.3.1-1, there is a footnote which states, "No aging effects requiring management." This footnote applies to the following component groups: Access Hole Covers, Core Delta-P/SLC Line, Core Support Plate, Fuel Supports, and Shroud Tie Rods. Provide the basis for the conclusion that there are no aging effects requiring management.

RESPONSE TO RAI - 2.3.2 - RA - 2:

The conclusion that there are "no aging effects requiring management" is based on review of the function, materials, and environment for each component and is documented in the appropriate AMR. The component-specific criteria of the BWRVIP program were applied where applicable. Otherwise, logic employed by the BWRVIP was applied to evaluate the component. The specifics are as follows:

Access Hole Covers: Cracking due to IGSCC is the aging effect of concern for access hole covers. The access hole covers for both Hatch units have been replaced. The materials employed as part of the replacement were selected specifically to eliminate the concern for IGSCC. Secondly, the replacement design incorporates a mechanical closure, thereby eliminating a heat-affected zone from which IGSCC might initiate and grow. Further, the design is such that crevices do not exist, eliminating crevice cracking as a concern. The bolts are not subject to significant radiation, so relaxation is not a concern. Finally, the bolt material was selected and the preload limited so that IGSCC of the bolt is not a concern. Therefore, since IGSCC has been effectively mitigated for this component, no aging management is required.

Core Delta-P/SLC Line: The Hatch Core Delta-P/SLC lines were determined to be bounded by the BWRVIP-27 criteria. In BWRVIP-27, aging mechanisms and effects are considered and inspections prescribed where appropriate. Using the criteria of BWRVIP-27, there are no aging effects that require management, and thus no inspections or other aging management activities are specified for either Hatch unit. BWRVIP-27 was reviewed and approved for generic use by the NRC in both current term (May 27, 1999) and for the renewal term (December 20, 1999).

Core Support Plate: The Hatch core support plates were determined to be bounded by BWRVIP-25. In BWRVIP-25, aging mechanisms and effects are considered and inspections prescribed where appropriate. The only subcomponents of the core plate subject to an aging management activity, in this case visual inspection, are the rim hold-down bolts. However, if wedges are installed to carry the lateral load in the event of bolt failure, inspections are not required to assure safe operation. Both Hatch units have wedges and thus do not require aging management. BWRVIP was reviewed and approved for generic use by the NRC in the current term (December 19, 1999). For the renewal term, the NRC review is in process.

Fuel Supports: The Hatch orificed fuel supports were determined to be bounded by BWRVIP-47. The peripheral fuel supports are bounded by BWRVIP-25. In both cases, aging mechanisms and effects are considered and inspections prescribed where appropriate. In neither case, orificed-fuel support nor peripheral fuel support, is aging management necessary to assure function. Therefore, none is specified. BWRVIP-25 is

discussed above. BWRVIP-47 was reviewed and approved for generic use by NRC in the current term (October 13, 1999). For the renewal term, NRC review is in process.

Shroud Tie Rods: The shroud repair design used BWRVIP criteria. Fatigue was considered in the shroud repair design and determined not to be a concern. Potential relaxation due to neutron fluence was accounted for in the repair design, and the design life includes the renewal period. Therefore, there are no aging effects requiring management. (Note: Although there are no aging effects requiring management, the tie rods are inspected as part of the shroud inspection program in accordance with BWRVIP-76.)

RAI - 2.3.2 - RA - 3:

The intended function of the reactor vessel internals to provide gamma and neutron shielding was not identified on page 2.3-2, nor in Table 2.3.1-1 of the LRA. The component which is specifically designed to perform this function, namely the thermal shield and its supporting structures, were also not identified to be within the scope and subject to an AMR. The staff believes that the function of radiation shielding of the reactor pressure vessel and the components which perform this function should be identified in the LRA, and an AMR be provided for those components that perform this passive function.

RESPONSE TO RAI - 2.3.2 - RA - 3:

The BWR internals do not provide gamma or neutron shielding. This function is accomplished by the water. Further, the BWR design does not employ a thermal shield. Therefore, there is no need to identify such components in the LRA.

RAI - 2.3.2 - RA - 4:

The low pressure coolant injection (LPCI) coupling was identified in the BWRVIP-06 report as a safety-related component. Identify the AMR for the LPCI coupling in the LRA, or provide a justification for the exclusion of this component from aging management requirements.

RESPONSE TO RAI - 2.3.2 - RA - 4:

As is noted in BWRVIP-06, the use of a LPCI coupling is limited to three BWR/4 plants, and the BWR/5 and BWR/6 plants. Neither Hatch unit has a LPCI coupling, so it is not mentioned in the LRA.

RAI - 2.3.3 - ESF – 1:

In Section 2.3.3 of the LRA, tanks (including the vertical tanks erected in the field) are considered mechanical components. However, the tank foundation and anchorage systems are considered structural components. Tanks can have foundations that are made of concrete or steel. The staff requests the applicant to clarify whether the concrete foundations or pads of the tanks needed for the ESF systems are included within the scope of license renewal and are subject to an AMR.

RESPONSE TO RAI - 2.3.3 - ESF – 1:

Tank foundations and anchorage supporting ESF systems are in scope and subject to AMR. Tank foundations are evaluated as a structure (either as part of a building or as a yard structure). Each table that includes a tank foundation (building or yard structure) also identifies anchors and bolts associated with the tank anchorage system. Refer to Section 2.4 of the LRA for the identification of structural components subject to AMR.

RAI - 2.3.3 - ESF – 2:

In Section 2.3.3 of the LRA, please clarify whether the passive components, namely screens and vortex breakers used in pump suction lines and which could be located either inside the ESF tanks or in the sump, whose intended function is to protect the pumps from debris and cavitation, respectively, are subject to an AMR. If so, identify which tanks and sumps are equipped with these passive components and the location of the AMRs for these components. If not, provide justification for exclusion of these components from aging management requirements.

RESPONSE TO RAI - 2.3.3 - ESF – 2:

"Screens" used within ESF tanks would be considered long-lived, passive components subject to an AMR. At Plant Hatch, the only "screens" utilized within ESF tanks to protect ESF system pump suctions from debris are pump suction strainers located within the torus. These strainers protect the pump suctions for the following systems: Residual Heat Removal, Core Spray, High Pressure Coolant Injection, and Reactor Core Isolation Cooling. These strainers are included within the Plant Hatch LRA in sections 2.3.3.2, 2.3.3.3, 2.3.3.4, and 2.3.3.5.

Vortex-breaking devices would also be considered long-lived, passive components subject to an AMR. However, neither unit at Plant Hatch utilizes vortex breakers within the torus, the condensate storage tank, nor SLC storage tank.

RAI - 2.3.3 - HR - 1:

In Drawing No. HL-26068, "Post-LOCA Hydrogen Recombiners System P& I.D.," the water separator, water spray cooler, reaction chamber, blower (C0001A), and unnamed component B001A are highlighted as within the scope of license renewal. However, those components are not listed in Table 2.3.3-8 of the LRA for aging management review. Based on the information provided in the LRA, the staff cannot conclude with reasonable assurance that the components of this system should not be subject to an AMR. Provide an AMR or justify the exclusion of these components from an AMR.

RESPONSE TO RAI - 2.3.3 - HR - 1:

These items are excluded from an AMR because they are subparts of two skid-mounted active components, much the same as the diesel generators. The "Bechtel/AI" dashed line on HL-26068 identifies the boundary of the A-train skid. The items shown to the right of the dashed line are part of the skid-mounted component. The skids have MPL numbers of 2T49-Z001A and 2T49-Z001B, one for each train of system T49.

RAI - 2.3.3 - HR - 2:

Identify the unnamed component "B001A" on Drawing No. HL-26068.

RESPONSE TO RAI - 2.3.3 - HR - 2:

This item with MPL number 2T49-B001A is the heater subcomponent of the skid-mounted hydrogen recombiner, 2T49-Z001A. The heater serves to preheat containment gases prior to combustion in the reaction chamber.

RAI - 2.3.3 - HR - 3:

From a review of the FSAR, Hatch Unit 1 does not utilize hydrogen recombiners. Please confirm this.

RESPONSE TO RAI - 2.3.3 - HR - 3:

Unit 1 does not have hydrogen recombiners. In the CLB for Hatch Unit 1, hydrogen recombiners are not utilized for post-LOCA hydrogen concentration control. The Unit 1 containment is inerted with nitrogen gas to prevent explosive concentrations of hydrogen and nitrogen (ref. Hatch Unit 1 FSAR Section 5.2.3.9).

RAI - 2.3.3 - HR - 4:

Table 2.3.3-8 does not list any instrument tubing. The staff believes that the instrument tubing performs its function without moving parts and is not replaced based on qualified life or specified time period, and thus is subject to an AMR. Provide an AMR for the tubing or justify the exclusion of the tubing from aging management review.

RESPONSE TO RAI - 2.3.3 - HR - 4:

The in-scope components that support function 2T49-01 and require inclusion in an AMR include piping. In the Plant Hatch LRA, tubing is included with piping for like materials. For example, the 1-in. and ¾-in. lines shown on drawing HL-26068 that are not a part of the Hydrogen Recombiner skid are described as piping in LRA Table 2.3.3-8. However, the instrument tubing referred to in the RAI is not subject to AMR since it is part of the skid-mounted Hydrogen Recombiner, an active component.

RAI - 2.3.3 - P&I – 1:

In Section 2.3.3.7, "Primary Containment Purge and Inerting System," both the ambient vaporizer and steam vaporizer are identified as major equipment for the system. Clarify if the steam vaporizer is within the scope of license renewal, and if so, highlight it in the drawings that identify the components within the scope of license renewal. The "vaporizer" is identified in Table 2.3.3-7. Clarify whether it includes the ambient vaporizer only or both ambient and steam vaporizer.

RESPONSE TO RAI - 2.3.3 - P&I – 1:

The steam vaporizer and steam supply are neither safety related nor within the scope of license renewal. The "vaporizer" in Table 2.3.3-7 is the ambient vaporizer.

RAI - 2.3.3 - P&I – 2:

In Section 2.3.3.7, Paragraph T48-03, Primary Containment Vacuum Relief is identified as one of the primary functions associated with the containment purge and inerting system. Its function is to prevent a collapse in either the drywell or torus as a result of the most rapid cooldown transient. Identify all major components associated with T48-03. Where are those components in Table 2.3.3-7 and in the drawings that identify the components within the scope of license renewal? Identify all the drawings dealing with T48-03.

RESPONSE TO RAI - 2.3.3 - P&I – 2:

The Plant Hatch LRA does not present screening results on a function-by-function basis. Rather, all functions primarily associated with a system, as denoted by the three-digit identifier before the dash in a function number, are grouped into a corresponding table in Sections 2.3 through 2.5. The methodology for performing this screening is described in Section 2.1 of the LRA and uses the Rule criteria to screen components for exclusion from AMR. SNC applied this methodology to function T48-03, and the results are presented in Table 2.3.3-7. For further information, refer to boundary drawings HL-16024 and HL-26084.

RAI - 2.3.3 - P&I – 3:

Table 2.3.3-7 of the LRA does not list any instrument tubing. The staff believes that instrument tubing performs its function without moving parts and is not replaced based on qualified life or specified time period and therefore is subject to an AMR. Provide an AMR for the instrument tubing or justify the exclusion of the instrument tubing from aging management review.

RESPONSE TO RAI - 2.3.3 - P&I – 3:

In general, the Plant Hatch LRA includes instrument tubing with piping for like materials. Copper instrument tubing is identified separately since there is no copper pipe in scope for functions associated with primary containment purge and inerting.

RAI - 2.3.3 - RHR – 1:

In Table 2.3.3-2, the intended functions for heat removal tubes have been identified as fission product barrier and pressure boundary. However, the staff believes that heat transfer is also an intended function of this component. Explain why this additional function need not be identified, and explain why an AMR is not necessary to assure satisfactory performance of this function during the period of extended operation.

RESPONSE TO RAI - 2.3.3 - RHR – 1:

Although not listed in Table 2.3.3-2, heat transfer is part of the component function for the RHR heat exchanger tubes. It was inadvertently omitted from the table. Although the function was not listed in the table, the aging management review performed for the heat exchanger tubes in Section C.2.2.11 included consideration of this function in the evaluation of aging effects requiring aging management.

RAI 2.3.3-SGTS-1:

Table 2.3.3-6 lists the components subject to an aging management review (AMR) for the SGTS. Other components in the SGTS are not identified as being subject to an AMR, although they perform their function without moving parts or a change in configuration or properties and are not replaced based on qualified life or specified time period. These components are listed below. Identify whether these components are subject to an AMR, and if so, provide the relevant information about the components to complete Table 2.3.3-6. If a component is not subject to an AMR, provide a justification for its exclusion. (With regard to the first 3 items in the list of components, the applicant was not consistent in scoping in redundant components for license renewal.)

a. Differential pressure indicator and associated piping (Unit 1, Filter Assembly D001B, HL-16020, SGTS Sh. 1 @ F2)

b. Temperature element and associated piping (Unit 1, Filter Assembly D001B, HL-16020, SGTS Sh. 1 @ G4)

c. Flow switch (FS N011A) and open valves (N011A-RV1, N011A-RV2) and associated piping (3/8 inch diameter piping) (Unit 1, HL-16174, SGTS Sh. 2 @ C7)

d. Filter housing with pre-filter, high-efficiency particulate air (HEPA) and carbon filters (Unit 1, Filter Assemblies D001A and D001B, HL-16020 @ (C2, C3, C4 and C5) and (G2, G3, G4 and G5)); compare with the housing and its contents for the filter assemblies shown in scope on HL-16042 @ (B8 and B9) and (E8 and E9) for the control building HVAC system.

e. Bird screen or wire mesh, if provided as a protective cover, for an exhaust stack (Unit 1, HL-16174, SGTS Sh. 2 @ C10)

f. Guillotine damper housing (Unit 2, Filter Assemblies D001A and D001B, HL-26078 @ C4 and G4)

g. Filter housing with pre-filter, HEPA and carbon filters (Unit 2, Filter Assemblies D001A and D001B, HL-26078 @ (C2, C3, C4 and C5) and (G2, G3, G4, and G5)); compare with the housing and its contents for filter assemblies shown in scope on HL-16042 @ (B8 and B9) and (E8 and E9) for the control building HVAC system.

h. "Buried pipe" (Unit 2, HL-26078 @ G10)

i. Bird screen or wire mesh, if provided as a protective cover, for an exhaust stack (Unit 2, HL-26078 @ C11)

RESPONSE TO RAI 2.3.3-SGTS-1:

The following discussion addresses each item in the RAI:

a. Differential Pressure Indicators are active components (NEI 95-10 Revision 0, Appendix B item 76). Therefore, no AMR is required for the Differential Pressure Indicators shown in HL-16020. The associated tubing is made of copper and is screened as piping. Table 2.3.3-6 includes this component.

b. Temperature Element was screened as thermowell. The thermowell is made of stainless steel. Table 2.3.3-6 includes this component. The associated tubing is made of copper and is screened as piping. Table 2.3.3-6 includes this component as well.

c. Flow Switches are active components (NEI 95-10 Revision 0, Appendix B item 84). Therefore, no AMR is required for the Flow Switches shown in HL-16174. The valves and associated piping made of carbon steel are included in Table 2.3.3-6.

d. Filter housing on HL-16020 is made of galvanized steel. An AMR was performed on the filter housing and this item is included in Table 2.3.3-6. The prefilter, HEPA filter, and carbon filter are in scope. However, these items are consumables, and therefore, not subject to AMR. These items were inadvertently left out from the boundary drawing HL-16020.

e. Bird screen is included in the exhaust stack as miscellaneous steel. See Table 2.4.11-1.

f. Dampers are active components (NEI 95-10 Revision 0, Appendix B item 155). Therefore, no AMR is required for the guillotine damper housing.

g. See the part d. response above.

h. The buried piping is made of carbon steel and included in Table 2.3.3-6.

i. See the part e. response above.

RAI 2.3.3-SGTS-2:

Table 2.3.3-6 of the LRA lists components subject to an AMR for the SGTS. Several components, identified on P&IDs HL-16174 and HL-26078 as being within the scope of license renewal, are not included in Table 2.3.3-6. The components listed below perform their function without moving parts or a change in configuration or properties and are not replaced based on qualified life or specified time period, and thus should be subject to an AMR. Identify whether the following components are subject to an AMR, and if so, provide the relevant information about the components to complete Table 2.3.3-6. If a component is not subject to an AMR, provide a justification for its exclusion.

a. Outside air probe tubing (Unit 1, HL-16174, SGTS Sh. 2 @ A9, B9 and C9)

b. Fan housing (Unit 1, HL-16174, SGTS Sh. 2 @ C5 and F5)

c. Outside air probe tubing (Unit 2, HL-26078 @ A9, B9, and C9)

d. Fan housing (Unit 2, HL-26078 @ C4 and G4)

RESPONSE TO RAI 2.3.3-SGTS-2:

Outside air probe tubing is made of copper and screened as piping. Table 2.3.3-6 includes this component.

NEI 95-10, Revision 0 Appendix B, item 163, designates ventilation fans as active components. Therefore, no AMR is required for the fan housings shown in HL-16174 and HL-26078.

RAI 2.3.3-SGTS-3:

Is there a "filter" category for component commodity groups, including the pre-filters, HEPA filters and charcoal adsorbers?

RESPONSE TO RAI 2.3.3-SGTS-3:

Neither NEI 95-10, Revision 0 nor SNC defined a filter category for component commodity groups. The SGTS filters are consumables, and therefore do not require AMR.

RAI - 2.3.3-SLCS – 1:

Table 2.3.3-1 identifies the pressure boundary as the sole intended function for the components supporting the standby liquid control system (SLCS), per 10 CFR 54.4(a)(1)(i). The staff, however, believes that the components have additional intended functions as delineated in 10 CFR 54.4(a)(1)(ii) and (iii), namely, the capability to shutdown the reactor and maintain it in a safe shutdown condition, and the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposure, respectively. Please explain why these intended functions need not be identified for the components supporting the SLCS.

RESPONSE TO RAI - 2.3.3-SLCS – 1:

The scoping process identified functions and applied all the Part 54 criteria, including §54.4(a)(1)(ii) and (iii) to determine if the functions were intended functions; that is, in scope. Portions of the SLC system are in scope because they meet one or more of the criteria in Part 54 for at least one function. Refer to the LRA, Table 2.2-1, which presents the scoping results. Functions C41-01 and C41-03 are shown to be in scope. These are the intended functions performed by SLC, with the screening results presented in Table 2.3.3-1. Pressure boundary is a function performed by components in support of the two intended functions noted above.

RAI - 2.3.3 - SLCS - 2:

The poison standpipe/sparger was not identified as a component within the scope of license renewal requiring an AMR. The staff believes that although the standpipe/sparger may not perform the pressure boundary function, it does perform the other two intended functions as noted in the above paragraph; and therefore, should be within the scope. The staff further believes that the aging effects, such as blockage of the standpipe/sparger perforations to prevent the injection of liquid poison solution and/or cracking of the component itself, may degrade its intended functions to assure good mixing and dispersion of the poison inside the reactor vessel. The staff, therefore, requests the applicant to identify where the AMR is located in the LRA, or provide a justification for the exclusion of the poison standpipe/ sparger from the aging management requirements.

RESPONSE TO RAI - 2.3.3 - SLCS - 2:

The SLC sparger was evaluated by the BWRVIP. The initial safety assessment is documented in BWRVIP-06. It was concluded that failure of the sparger due to cracking "has no performance or safety consequence." The NRC issued a safety evaluation for BWRVIP-06 on September 15, 1998.

BWRVIP later performed a more detailed assessment of the SLC piping and sparger to determine the need for any inspections. The results are documented in BWRVIP-27. This assessment, like BWRVIP-06, considered all modes of degradation and identified the actions necessary to assure safe operation. Mixing was specifically addressed in Section 2.2.1 of BWRVIP-27. The conclusion is that cracking of the sparger would not prevent the poison from mixing and shutting down the reactor. BWRVIP-27 was reviewed and approved for generic use by NRC in the SERs for both current term (May 27, 1999) and renewal term (December 20, 1999).

Finally, based on the materials of construction and the environment, plugging of the sparger due to corrosion of the sparger is not a plausible aging effect. Further, if crud from the bottom head region were to accumulate, the pressure associated with SLC injection would dislodge any crud and flow would be assured. Therefore, an aging management activity is not warranted.

RAI - 2.3.4 - AD - 1:

In Section 2.3.4.4, "Access Doors System," it is stated that the doors necessary to maintain secondary containment are included in the containment integrity function, L48-01, and that secondary containment doors have a passive function to maintain structural integrity to preserve secondary containment. The staff believes that, based on these functions, the access door and door seals meet the requirements of 10 CFR 54.4(a) and are within the scope of license renewal. Further, additional information must be provided for the staff to have reasonable assurance that the door seals need not be subject to an aging management review (AMR). Provide justification for concluding that the access door and door seals are not within the scope of license renewal. If these components are within scope, provide an AMR for the access door and door seals or justify why they are not subject to an AMR.

RESPONSE TO RAI - 2.3.4 - AD - 1:

Access doors, with their door seals, are in scope. LRA Section 2.3.4.4 identifies the intended function supported by secondary containment access doors, and Table 2.3.4-4 presents the screening results. See Table 3.2.4-4 for a summary of the AMR for secondary containment access doors. Appendix C.2.6.3 addresses aging effects and aging management activities related to secondary containment access doors. For door seals, the programmatic action is not to manage seal life, but rather to replace the seals when condition indicates a door seal is no longer acceptable for service. Therefore, secondary containment access door seals are repaired or replaced based upon performance or condition and thus are not subject to AMR.

RAI 2.3.4-CBHVAC-1:

Several components, identified to be within the scope of license renewal on P&IDs HL-16042 and HL-26116 and/or in the text of LRA Section 2.3.4.20, are not included in Table 2.3.4-20. Table 2.3.4-20 lists the components subject to an AMR for the CBHVACS (including the main control room ventilation system). The components listed below perform their function without moving parts or a change in configuration or properties and are not replaced based on qualified life or specified time period, and thus should be subject to an AMR. Identify whether the following components are subject to an AMR, and if so, provide the relevant information about the components to complete Table 2.3.4-20. If a component is not subject to an AMR, provide a justification for its exclusion.

a. Damper housing and associated ductwork (HL-16042 (several dampers), HL-16042 @ H7 (cable spreading room); HL-26116 @ C4 and D4)
b. Filter train housing with carbon and HEPA filters (HL-16042 @ B8 and B9, F8 and F9)
c. Fan housing (HL-16042 @ E12 and F12, B7, E7; H5, H7 (cable spreading room))
d. Air handling units housing and heating and cooling coils (HL-16042 @ B2 and B3, D2 and D3, F2 and F3)
e. Filters (HL-16042 @ B5, F5)
f. Coolers for low-pressure coolant injection (LPCI) inverter room and Unit 2 vital A/C room (text of Section 2.3.4.20)

RESPONSE TO RAI 2.3.4-CBHVAC-1:

The following numbered responses correspond to the numbering in the RAI:

a. The damper housing is a part of the damper, which is an active component (NEI 95-10 Revision 0, Appendix B item 155). The ductwork is constructed of both carbon steel and galvanized steel and is subject to an aging management review. Both types of ductwork are included in Table 2.3.4-20.
b. The filter train housing is subject to an aging management review and is included in Table 2.3.4-20. The carbon and HEPA filter media inside the filter housing are consumables.
c. The in-scope fan housings are a part of fan assemblies, which are active components (NEI 95-10, Revision 0 Appendix B item 163).
d. The air-handling units, including the cooling coils, are a part of the active fan assemblies (NEI 95-10, Revision 0 Appendix B item 163). The heating coil housing, however, is subject to an aging management review and is shown on Table 2.3.4-20.
e. The filter media shown on HL-16042 (B5 and G5) is consumable. An aging management review was performed on the filter housing, which is included in Table 2.3.4-20.
f. The coolers for the low-pressure coolant injection (LPCI) inverter room and the Unit 2 vital A/C room do not perform an in-scope function. However, the LPCI inverter room cooling coils do provide part of the pressure boundary function for P41-01 but were not subject to an AMR since they are part of the active fan

assemblies. Section 2.3.4.20 provides a general description of the control building HVAC, some of which is outside the scope of license renewal.

RAI 2.3.4-CBHVAC-2:

Describe the areas that constitute the main control room envelope (MCRE) for Hatch Units 1 and 2. Verify that all control room ventilation system components (including air handling units and fan coil units with their associated ductwork, fire damper and control valves, air intake, and exhaust fan with purge ductwork) inside the MCRE, which are relied on to perform the safety-related cooling and filtration functions (in order to maintain the control room habitability (CRH) and meet General Design Criterion (GDC) 19 requirements), are identified to be within the scope of license renewal and subject to an AMR on HL-16042 and in Table 2.3.4-20. If a component is not subject to an AMR, provide a justification for its exclusion.

RESPONSE TO RAI 2.3.4-CBHVAC-2:

The MCR envelope consists of an area located on the 164' elevation of the control building and contains approximately 106,000 ft^3. This space is enclosed by reinforced concrete walls and floors and is served by the MCRECS, which realigns into a 'pressurization' mode should an accident signal be generated. In this mode, the MCRECS is designed to cool and filter the MCR envelope, maintaining habitability in the control room. In the pressurization mode, the return air and outside air are directed through the filtration units shown on HL-16042 (Zones B-8, 9 and E, F-8, 9). The HVAC equipment required to perform this function (Z41-02) is included in scope for license renewal and the components subject to AMR are shown on Table 2.3.4-20. SNC screened the components associated with the control room ventilation function in accordance with the methodology described in Section 2.1.3 of the LRA. The results for this function are presented in Table 2.3.4-20. In summary, SNC applied the screening criteria prescribed by the Rule in determining the set of long-lived, passive components subject to AMR. Thus, components excluded from AMR were excluded based on a determination that the component was either short-lived, including consumable items, or the component performed its function via a change in state or properties (i.e., an active component).

RAI 2.3.4-CBHVAC-3:

Clarify whether sealants, used to maintain the MCRE at positive pressure with respect to the adjacent areas in order to prevent unfiltered in-leakage into the MCRE, are included in the scope of license renewal and subject to an AMR, and if so, provide the relevant information to complete Table 2.3.4-20 of the LRA. If the sealants are not subject to an AMR, provide a justification for their exclusion. With regard to the sealant materials, the staff's view is that condition monitoring, if provided by technical specification (TS) surveillance requirements (SRs) of Hatch Units 1 and 2, does not by itself provide a plant-specific basis for excluding the sealant materials in the control room pressure boundary from an AMR. However, the staff believes that the TS surveillance, in conjunction with related system inspections and the corrective action process, can provide an adequate aging management program for sealant materials in the control room ventilation system.

RESPONSE TO RAI 2.3.4-CBHVAC-3:

Sealants are not used at Plant Hatch to maintain positive pressure for the MCR pressure boundary. Sealants used to support intended functions are listed in Table 2.4.13-1.

RAI 2.3.4-CBHVAC-4:

The "System to Function Matrix" (dated 5/24/00) lists P&ID HL-16040 as one of the boundary drawings for the control building HVAC system. However, HL-16040 was not among the boundary drawings submitted by the licensee. Please provide HL-16040 for staff review.

RESPONSE TO RAI 2.3.4-CBHVAC-4:

Drawing HL-16040 has been provided to NRC separately for information.

RAI - 2.3.4 - COND – 1:

In Drawing No. HL-16016, "Condensate Storage & Transfer System P.& I.D.," Valve Nos. E51-F009 (Location D1), E41-F010 (Location D1) are not highlighted. These valves are locked open valves for flow from the condensate storage tank (CST) to the high pressure coolant injection system (HPCI) and the reactor core isolation cooling system (RCIC) serving the intended function of P11-01, ECCS/CRD condensate supply. The staff believes that these valves are within the scope of license renewal and subject to an aging management review (AMR). Provide justification why these valves are not highlighted.

Based on the information provided in the license renewal application, the staff cannot conclude with reasonable assurance that the flow line from the CST to the control rod drive system (CRD, location C2) does not meet the requirements of 10 CFR 54.4 and is not subject to an AMR. Provide justification why this line should be excluded from the scope of license renewal and not be subject to an AMR.

RESPONSE TO RAI - 2.3.4 - COND – 1:

Valves 1E41-F010 and 1E51-F009 are within the scope of license renewal for Plant Hatch. The above mentioned valves and associated HPCI and RCIC suction piping downstream are shown in "phantom" (indicating that the information is supplied for reference only) on drawing HL-16016, and therefore, are not highlighted since they appear on other license renewal boundary drawings. Refer to license renewal boundary drawings HL-16332 and HL-16334 where valves 1E41-F010 and 1E51-F009 (along with the associated suction piping) are clearly indicated to be within the scope of license renewal for Plant Hatch. Valve 1E41-F010 is included within the scope of function 1E41-01. Valve 1E51-F009 is included within the scope of function 1E51-01.

The 4-in. header supplying the CRD system from the CST is not within the scope of license renewal.

The Plant Hatch LRA indicates in Table 2.2-1 that, for the CRD system, only the reactivity control (reactor scram) and ARI functions are within the scope of license renewal for Plant Hatch. Other CRD system functions that may require a supply of demineralized water from the CST are not relied upon to meet any of the criteria of 10 CFR 54.4 and are excluded from the scope of license renewal. See Unit 2 FSAR section 4.2.3.2 "CRD System," for additional information.

Section 2.3.4.1 of the Plant Hatch LRA provides a brief description of the reactor scram and ARI functions. A supply of demineralized water from the CST is not required for the CRD system to accomplish these functions since the driving force to accomplish rod insertion is generated by RPV pressure (at higher RPV pressures) against a vented header or by accumulator pressure (at lower RPV pressures) against a vented header. CRD pump discharge pressure is not required for rod insertion. See Unit 2 FSAR section 4.2.3.2 "CRD System," for additional information.

RAI - 2.3.4 - COND – 2:

In Section 2.3.4.5, "Condensate Transfer & Storage System," it is stated that the system consists of two condensate transfer pumps and associated piping and valves. The staff believes that the pumps are within the scope of license renewal and subject to an aging management review (AMR). Identify these two pumps in the drawings as within the scope of license renewal or justify their exclusion. Explain why these pumps (pump housing) are not included in Table 2.3.4-5 for an AMR.

RESPONSE TO RAI - 2.3.4 - COND – 2:

SNC has performed scoping and screening of the components associated with the condensate transfer and storage functions in accordance with the methodology described in Section 2.1 of the LRA. The scoping results are presented in Table 2.2-1 of the LRA and the intended function is described in Section 2.3.4.5. The screening results for this function are presented in Table 2.3.4-5. In summary, SNC applied the screening criteria prescribed by the Rule in determining the set of long-lived, passive components subject to AMR. Thus, components excluded from AMR were excluded based on a determination that the components either did not support the intended function (not in scope) or were either short-lived, including consumable items, or performed their functions via change in position, state or properties (i.e., an active component). The pumps identified in this RAI do not support an intended function.

RAI - 2.3.4 - COND - 3:

The staff believes that instrument tubing for the Condensate Transfer & Storage System performs its function without moving parts and is not replaced based on qualified life or specified time period, and therefore is subject to an AMR. Provide an AMR for the instrument tubing or explain why the instrument tubing is not included in Table 2.3.4-5 for aging management review.

RESPONSE TO RAI - 2.3.4 - COND - 3:

See the response to RAI 2.3.3-P&I-3.

RAI - 2.3.4 - CRD - 1:

The staff believes that the scram discharge volume (SDV) of the control rod drive system (Section 2.3.4 of the LRA) is a passive, long-lived component that meets the requirements of 10 CFR 54.4(a), and therefore is subject to an aging management review (AMR). Clarify whether the SDV is subject to an AMR. If not, provide a justification for excluding the SDV from an AMR.

RESPONSE TO **RAI - 2.3.4 - CRD - 1:**

The SDV components are subject to AMR. The components are included in components supporting CRD intended functions and are shown in Table 2.3.4-1. Boundary drawings HL-16065 and HL-26007 include the SDV components.

RAI - 2.3.4 - DPS - 1:

In Section 2.3.4.11, "Drywell Pneumatics System," it is stated that the drywell pneumatics system receives motive gas from the nitrogen storage tanks. The staff believes that the nitrogen storage tanks are passive and long-lived and therefore are subject to an aging management review (AMR). Identify the nitrogen tanks in the applicable drawings and list them in Table 2.3.4-11 for aging management review, or justify the exclusion of these tanks from an AMR

RESPONSE TO RAI - 2.3.4 - DPS - 1:

The nitrogen storage tanks are included in function T48-01, section 2.3.3.7, and shown in Table 2.3.3-7. The nitrogen storage tanks are highlighted on boundary drawings HL-16000 and HL-26083 for Units 1 and 2, respectively.

RAI - 2.3.4 - DPS - 2:

In Section 2.3.4.11, "Drywell Pneumatics System," it is stated that the system includes an air receiver, particulate filters, and regulators. Based on the information provided in the license renewal application, the staff cannot conclude with reasonable assurance that the components of the drywell pneumatics system are not subject to an AMR. Provide justification for concluding that these components are not subject to an AMR.

Identify the regulators in the applicable drawings and list the air receiver and regulators in Table 2.3.4-11 for aging management review, or justify the exclusion of them from aging management review.

RESPONSE TO RAI - 2.3.4 - DPS - 2:

The gas receiver was inadvertently omitted from Table 2.3.4-11. However, the gas receivers have a pressure boundary function as part of safe shutdown pathways in the event of a fire and as a pressure boundary for the safety related source of nitrogen supplied from the nitrogen storage tank. The receiver is carbon steel and contains a dry gas. Section C.2.2.8.1 identifies carbon steel accumulators (synonymous with tank and receiver) with a dry gas interior environment. The exterior of the receiver is exposed to the normal environment inside the reactor building.

The particulate filters for the P70 system have MPL numbers 1P70-D008-A, 1P70-D008-B, 1P70-D009-A, 1P70-D009-B, 2P70-D008-A, 2P70-D008-B, 2P70-D009-A, and 2P70-D009-B. This equipment consists of a filter housing and a filter cartridge containing the filter media. The filter housings are included in Table 2.3.4-11. The filter cartridges are consumable items, and thus, short-lived. The cartridges are replaced frequently (the current recommended replacement interval for the filter cartridges is every refueling outage). These filters appear on boundary drawings HL-16286 and HL-26066.

"Regulators" are pressure control valves and are listed in Table 3.2.4-11 as "valve." These valves appear on boundary drawings HL-16286 and HL-26066.

RAI - 2.3.4 - DPS - 3:

Unit 2 FSAR Section 9.3.6.3 states that a backup supply of nitrogen to the drywell is provided through three interchangeable nitrogen bottles and a manifold system at one of two emergency nitrogen hookup stations. Based on the information in the LRA, the staff cannot conclude with reasonable assurance that the nitrogen bottles and manifold system are not subject to an AMR. Provide justification for concluding that these components are not subject to an AMR.

RESPONSE TO RAI - 2.3.4 - DPS - 3:

Nitrogen bottles are short-lived components and therefore not subject to AMR. The nitrogen gas is used up during the course of normal operations and testing. Once the pressure of the gas bottle decreases below a predetermined setpoint, the bottle is replaced and returned to the vendor. The gas bottles have a DOT (49 CFR) inspection interval, which the gas vendor observes. This interval is typically once every 10 years.

Table 2.3.4-11 lists the components of the manifold assembly as piping, valves, and flex hoses.

RAI - 2.3.4 - EDG - 1:

In Section 2.3.4.12, "Emergency Diesel Generator System," pumps are not identified as within the scope of license renewal in Table 2.3.4-12. This is not consistent with Drawing Nos. HL-21074, HL-11631, HL-11638, where many pumps are highlighted. Explain the discrepancy.

RESPONSE TO **RAI - 2.3.4 - EDG - 1:**

On drawings HL-11638 (sheets 1 and 2) and HL-11631 (sheets 1 and 2), all the pumps are a part of the diesel generator skid, an active component. The pumps that are not part of the diesel generator skid are on drawing HL-21074 and appear in Table 2.3.4-19.

RAI - 2.3.4 - EDG - 2:

In Drawing Nos. HL-21074 and HL-11631, the air receivers A005A (Location 11C), A006A (Location 9C), A003A (Location E11), and A007A (Location E9) are highlighted as within the scope of license renewal. In Table 2.3.4-12, these air receivers are not included as subject to aging management review (AMR). Based on the information provided in the license renewal application, the staff cannot conclude with reasonable assurance that the air receivers should not be subject to an AMR. Provide an AMR or justify the exclusion of the receivers from an AMR.

RESPONSE TO RAI - 2.3.4 - EDG - 2:

Air receivers are listed as "tanks" in Table 2.3.4-12. Note that MPL A006A also appears in Unit 1 drawing in location HL-11631 at J-9. The Unit 1 component, however, is an expansion tank, not an air receiver.

RAI - 2.3.4 - EDG - 3:

In Drawing No. HL-11631, the scavenging air heat exchanger (Location B10), engine supply HDR, diesel engine crankcase (Location D11), and Turbo superchargers (Locations C12, and D12) are highlighted as within the scope of license renewal. These components are not included in Table 2.3.4-12 as subject to an AMR. Based on the information provided in the license renewal application, the staff cannot conclude with reasonable assurance that these components should not be subject to an AMR. Provide an AMR or justify the exclusion of these components from an AMR.

RESPONSE TO RAI - 2.3.4 - EDG - 3:

These items are part of the diesel generator, an active component, and therefore not subject to AMR.

RAI - 2.3.4 - EDG - 4:

What are the component Nos. C001A (Location C11) and C010A (Location C8) in Drawing No. HL-11631 represented for? Why aren't these components within the scope of license renewal and subject to aging management review?

RESPONSE TO RAI - 2.3.4 - EDG - 4:

1R43-C001A is diesel generator 1A compressor 1A1, and C010A is diesel generator 1A compressor 1A2. Per the Plant Hatch Unit 1 FSAR, Section 8.4, each diesel generator is supplied with two air receivers (in this case A003A and A007A), each supplying enough air at 150 psig to 250 psig for a minimum of five starts. The air compressors do not perform an intended function since the air receivers are sized to accomplish the five required starts.

RAI - 2.3.4 - FPS - 1:

License renewal application (LRA) Section 2.1.2.2 provides a brief description of the information sources that the applicant reviewed to compile a list of structures, systems, and components (SSC's) within the scope of license renewal. The staff questioned the applicant during a July 6, 2000 phone call because the documents referenced by the applicant did not appear to include the fire hazards analysis (FHA). The applicant stated that the FHA was included as an information source during the scoping process. Verify that this is an accurate statement and explain how the SSC's in the FHA were captured within the scope of license renewal by identifying the specific types of safety analyses or plant evaluations, and documentation (e.g. UFSAR, FHA, safe shutdown analysis, safety evaluations, etc.) that were used to identify fire protection SSC's required for compliance with 10 CFR 50.48 and Appendix R.

RESPONSE TO RAI - 2.3.4 - FPS - 1:

The FHA is a part of the FSAR, which is included in the list of documents reviewed for scoping determinations. Unit 1 FSAR, Section 10.8 and Unit 2 FSAR, Section 9.5.1 refer to the FHA.

Plant Hatch was docketed prior to July 1, 1976, and as such, the applicable regulatory requirements for fire protection programs at nuclear power plants were contained in BTP APCSB 9.5-1, Appendix A. On February 19, 1981, a new rule, 10 CFR 50.48 and 10 CFR 50 Appendix R became effective and introduced new fire protection requirements at nuclear power plants licensed to operate prior to January 1, 1979, which included Plant Hatch. Since there were no outstanding issues in the NRC approved SER for BTP 9.5-1, Appendix A at Plant Hatch, only the requirements of sections III.G, III.J, and III.L of Appendix R were backfit items for Plant Hatch (FHA section 9.5.1). The FHA contains analyses to demonstrate compliance with Appendix R.

The FHA was included as the primary information source during the scoping process for fire protection SSCs. The FHA describes and identifies SSCs required for compliance with the regulatory requirements of Appendix R (applicable portions – paragraphs III.G, III.J, and III.L) and Appendix A to Branch Technical Position APCSB 9.5-1. The FHA is the focal point for, and a compilation of, information on how Plant Hatch meets regulatory commitments, being demonstrated by the results of analyses and safety evaluations. Fire protection SSCs were evaluated relative to regulatory commitments in the FHA to determine whether to include or exclude them from the scope of license renewal. This was accomplished by reviewing the fire protection equipment operating and surveillance requirements of FHA section 9.2 Appendix B. FHA section 9.2 Appendix B identifies SSCs required to protect safety related or safe shutdown components from the effects of fire, and describes minimum operating and surveillance requirements for fire protection systems. If a fire protection SSC was found to be relied on in FHA section 9.2 Appendix B, then it was included in the scope of license renewal.

Although FHA section 9.2 Appendix B is the primary source for determining in-scope SSCs, practically all the other sections of the FHA were consulted to more fully identify the role a SSC plays in meeting the regulatory requirements. FHA section 9.5 Appendix E provides the safe shutdown analysis for Plant Hatch in compliance with Appendix R. Safe shutdown equipment and circuitry "paths" are identified and analyses

are performed of fire areas to demonstrate that safe shutdown can be accomplished regardless of a fire. The common areas fire hazard analysis of individual fire areas in FHA section 10.0 for Unit 1 and section 12.0 for Unit 2 was consulted with regard to safety related and nonsafety-related equipment in a given fire area. These sections also describe fire barriers, combustibles loading, fire protection features for a fire area, and the consequences of a design basis fire in that area. The fire hazards analysis figures of FHA section 8.0 and the methodology; fire protection features; and explanatory notes of FHA sections 3.0, 4.0, and 5.0 respectively, were also used to provide supplemental information about SSCs. Analyses, safety evaluations, and correspondence (including exemption requests) associated with Plant Hatch's compliance to the regulatory requirements for fire protection systems are contained in the FHA or referenced by it.

RAI - 2.3.4 - FPS - 2:

LRA Table 2.2-1, "Plant Hatch System/Structure Function Scoping Results," states that the three intended functions listed below are not within the scope of license renewal. However, no basis is provided in the LRA for the exclusion of the intended functions from within the scope of license renewal:

> X43-03 RPV Inventory Makeup: The staff has reason to believe that this intended function is to provide water into the reactor vessel, if all other initial attempts to provide water through other systems fail or are not available. If this is the case, then all components which support this function, should be identified within the scope of license renewal and should be subject to an AMR. Therefore, provide a description for this intended function and justify the exclusion of this intended function from within the scope of license renewal.
>
> X43-05 Halon Fire Suppression For Miscellaneous Applications: This function identifies a halon fire suppression system; however it does not identify if halon fire suppression for miscellaneous applications is required for compliance with 10 CFR 50.48 or Appendix R. It also does not identify the "miscellaneous applications" for which the halon fire suppression system is needed. Please address these concerns and provide clarification for this intended function. Justify the exclusion of this intended function from within the scope of license renewal.
>
> X43-09 EDG Building Fire Protection: Fire suppression and fire detection systems were identified in the fire hazards analysis as being installed in the EDG building. Footnote 5 in Table 2.2-1 of the LRA states that this function was retained for continuity and that the functions have been included in X43-01. The FHA identifies both suppression and detection systems for the EDG building. Address if all of the fire detection functions for the EDG building are also included in X43-01.

RESPONSE TO RAI - 2.3.4 - FPS - 2:

The X43-03 and X43-05 functions are not in scope because, based on the application of the scoping methodology described in section 2.1 of the LRA, the components associated with these functions are not safety related, do not perform a safety function, and failure of such would not prevent safety related components from performing their intended functions. In addition, these functions are not required for compliance with the regulatory requirements of 10 CFR 50.48, 50.49, 50.62, and 50.63.

Functions X43-01 and X43-06 include all the suppression and detection systems for the emergency diesel generator building. See boundary drawings HL-41509 (X43-01) and HL-11894 (X43-06) for the in-scope components.

PART 1 OF RAI - 2.3.4 - FPS - 3:

Exclusion of certain fire protection components from the scope of license renewal and from an aging management review

1. Dedicated Storage Tanks

(a) The applicant states in LRA Section 2.3.4.18, that the water supply for the fire protection system inside the protected area is provided by two 300,000 gallon dedicated storage tanks. Each tank is supplied by two deep wells, each with a 700 gpm makeup pump capable of refilling either tank within 8 hours. Flow diagram Volume 1, HL-11033, Sheet 1, "Fire Protection Piping P&ID Pumphouse Layout," shows that the tank fill line is not highlighted to include this piping within the scope of license renewal. This piping appears to provide water from underground wells to the dedicated storage tanks. Justify the exclusion of this piping from within the scope of license renewal.

(b) Flow diagram Volume 1, HL-11033, Sheet 1, "Fire Protection Piping P&ID Pumphouse Layout," does not show the pumps which draw water from the wells. Since these wells supply the dedicated storage tanks with water for use by the fire protection system, discuss if these pumps (casings) should also be included within the scope of license renewal and subject to an AMR.

RESPONSE TO PART 1 OF RAI - 2.3.4 - FPS - 3:

As described in the response to RAI 2.3.4-FPS-1, FHA section 9.2 Appendix B identifies the SSCs required to protect safety related or safe shutdown components from the effects of fire, and these SSCs are in scope for license renewal. The well water supply system is not relied upon in FHA section 9.2 Appendix B, and is therefore not in the scope of license renewal.

PART 2 OF RAI - 2.3.4 - FPS - 3:

Exclusion of certain fire protection components from the scope of license renewal and from an aging management review

2. Fire Hydrants

LRA Table 2.3.4-18 states that fire hydrants perform a pressure boundary intended function and are within the scope of license renewal and subject to an AMR. Flow diagram Volume 1, HL-11033, Sheet 2, "Fire Protection P&ID Yard Layout," only highlights the portion of fire protection piping leading up to, and including, the gate valve of each hydrant. The actual fire hydrant is not highlighted to show that it is within the scope of license renewal. The staff also noted that other flow diagrams depicted fire hydrants in a similar manner. During a July 6, 2000 phone call with the applicant, the applicant stated that only 3 hydrants were originally in scope and that they will be removing these hydrants from within the scope of license renewal due to a current licensing basis change that affects license renewal.

Fire hydrants are integral to performing system flow tests. Lack of maintenance of fire hydrants over time can result in partially closed or shut valves and clogging of hydrants with debris, which will effect the system flow results. Furthermore, it is not uncommon to have fire hydrants credited as a redundant water loop. Please discuss the regulatory basis for the exclusion of fire hydrants from within the scope of license renewal. Also, discuss how system flow tests will be performed, and how the results will be interpreted, if testing is performed on hydrants which are not subject to an aging management program.

RESPONSE TO PART 2 OF RAI - 2.3.4 - FPS - 3:

At the time of submittal of the License Renewal Application, three fire hydrants (1Y43-F314A, -F318D & -F314B) were in scope because they met regulatory commitments. The remaining water suppression system fire hydrants were not in scope. A recent revision to the FHA, subsequent to the date SNC used to freeze design and CLB changes in the application, has removed the three hydrants from regulatory commitment (FHA revision 15A). A mobile hose carrier will be used in lieu of the referenced yard hydrants. At the required annual update, these three hydrants will be removed from the application.

The regulatory basis for excluding fire hydrants from the scope of license renewal is that they are not required to meet 10 CFR 50 Appendix R or Appendix A to Branch Technical Position APCSB 9.5-1 requirements at Plant Hatch. This is evidenced by the fact that fire hydrants are not relied on in FHA section 9.2 Appendix B, which identifies fire protection equipment required to protect safety related or safe shutdown components from the effects of fire.

At Plant Hatch, hydrants are not required for system loop header flow. Closed loop flow tests are accomplished using valve line-ups that process flow from the fire water storage tanks to the fire pumps and then through various fire protection piping loops back to the storage tanks. No flow is processed through or out of a fire hydrant during the course of

performing a flow test. Fire hydrants are not credited as a redundant water loop at Plant Hatch. No loop header flow testing is performed on fire hydrants.

The license renewal boundary ends at the isolation valve upstream of the hydrant, because the in-scope pressure boundary can be isolated from a failure in the not-in-scope pressure boundary by the isolation valve.

PART 3 OF RAI - 2.3.4 - FPS - 3:

Exclusion of certain fire protection components from the scope of license renewal and from an aging management review

3. Manual CO_2 Fire Protection Hose Reels

(a) LRA Section 2.3.4.18 states that manual hose reels, which support intended function X43-08 (Manual CO_2 Fire Protection), are provided as an alternative to water-based hose stations. Discuss if the use of manual hose reels is credited for compliance with 10 CFR 50.48. Also identify if they are within the scope of license renewal and subject to an AMR.

RESPONSE TO PART 3 OF RAI - 2.3.4 - FPS - 3:

Manual hose reels are active components. The passive, long-lived components of a hose reel station are subject to AMR. The passive long-lived components are included in Table 2.3.4-18 as piping, nozzles, and valves. The movable reel is active and not subject to AMR. The hose is short-lived and not subject to AMR. Refer to boundary drawing HL-41509.

PART 4 OF RAI - 2.3.4 - FPS - 3:

Exclusion of certain fire protection components from the scope of license renewal and from an aging management review

4. Pilot heads/Pilot lines:

The staff's understanding of pilot lines/pilot heads is that they are necessary for actuation of a preaction suppression system. If the pilot heads are not functional, then the water will not flow through the pipe. The staff asked the applicant to provide justification for the exclusion of pilot lines/pilot heads (identified on flow diagram Volume 1, HL-11304, Sheet 3, "Fire Protection Piping P&ID Cond. Below El 130' ") from within the scope of license renewal (Other flow diagrams also exclude pilot lines/pilot heads the same way).

In a July 6, 2000 phone call, the applicant stated that this function is captured in function P52-02 but was not in scope because failure of the pilot lines/pilot heads will still allow actuation of the suppression system. Provide a technical basis for the statement that failure of the pilot lines/pilot heads will not result in suppression system failure. Also discuss how failure of the pilot lines/pilot heads will still allow for automatic sprinkler actuation.

RESPONSE TO PART 4 OF RAI - 2.3.4 - FPS - 3:

Pilot lines/heads are in function P52-02 (interruptible essential instrument air supply), which is not in scope. The P52-02 function is not in scope because the components supporting function P52-02 are not safety related, do not perform a safety function, and failure of such would not prevent safety related components from performing their functions. In addition, these components are not required to demonstrate compliance with the regulatory requirements of 10 CFR 50.48, 50.49, 50.62, 50.63. Refer to Unit 1 FSAR section 10.11 and Unit 2 FSAR section 9.3.1. Also, air pilot lines and heads are not relied upon in FHA section 9.2 Appendix B and are therefore not in scope. Equipment serviced by the interruptible essential instrument air supply fails in its safe position. For the fire protection water suppression system, failure of an air pilot line/head results in activation of the water suppression system, i.e., the system fails to its safe position or condition. Loss of air pressure in the pilot line results in the opening of a pilot actuator which charges the water suppression piping network with water pressure in anticipation of a fire event.

PART 5 OF RAI - 2.3.4 - FPS - 3:

Exclusion of certain fire protection components from the scope of license renewal and from an aging management review

5. System filters, fire extinguishers, fire hoses, and air packs:

System filters, fire extinguishers, fire hoses, and air packs are not included within the scope of license renewal and are not subject to an AMR. (In a July 6, 2000 phone call, the applicant clarified that systems filters were included within scope and are subject to an AMR. However, in the LRA, they are listed as strainers in Table 2.3.4-18).

As a result of the staff's experience with license renewal, the staff has found that fire extinguishers, fire hoses, and air packs (within the scope of license renewal) may be excluded, on a plant-specific basis, from an aging management review under 10 CFR 54.21(a)(1)(ii). These components are considered within the scope of license renewal and are typically replaced based on specific performance and condition monitoring activities that clearly establish a routine replacement practice based on a qualified life component. These components may be excluded based on specific performance and condition monitoring activities provided that the applicant (1) identifies and lists in the LRA each component type subject to such replacement, and (2) identifies the applicable programs that conform to appropriate standards (e.g., for fire protection components - applicable NFPA standards and 42 CFR Part 84). Justify the exclusion of these components from the scope of license renewal and an AMR.

RESPONSE TO PART 5 OF RAI - 2.3.4 - FPS - 3:

Filters are identified as "strainers" in the fire protection system. There are two types of strainers used in the fire protection system: Y-strainers and pipe line basket strainers. Both types are subject to aging management and are included in scope for license renewal.

Fire extinguishers, air packs, and CO_2 hoses are short lived based on a qualified life, and are therefore not subject to AMR. Water hoses are subject to the guidance found in NRC correspondence with NEI (Chris Grimes letter to Douglas J. Walters of the Nuclear Energy Institute dated April 20, 1999). Water hoses are monitored routinely and replaced based on degradation in performance or condition monitoring replacement criteria specified in applicable site-approved programs and procedures.

PART 6 OF RAI - 2.3.4 - FPS - 3:

Exclusion of certain fire protection components from the scope of license renewal and from an aging management review

6. Cardox Fire Suppression for EDG's:

LRA Section 2.3.4.18 identifies the following components that support the Cardox fire suppression system for emergency diesel generators (X43-01) within the scope of license renewal: roll-up fire door, HVAC fire dampers, CO_2 discharge controls, detection devices, and a non-safety related fusible link to control the roll-up fire door.

(a) Flow diagram Volume 5, HL-41509, "Diesel Generator Building, CO_2 System," contains additional components with X43-01 intended functions, that were not listed in the LRA as components within the scope of license renewal (see page 2.3-65 of the LRA). The additional components identified from the flow diagram include hose reels, nozzles, plugs, caps, valves (bodies), and vents. The staff believes that these components meet the requirements of 10 CFR 54.4 and therefore, are within the scope of license renewal. In a July 6, 2000 phone call with the applicant, they stated that hose reels, plugs, caps, vents, and valve (bodies) were included within scope and that plugs, caps, and vents, were identified in Table 2.3.4-18 as piping. Verify in writing that this is an accurate statement.

(b) Components such as the hose reels, plugs, caps, vents, and CO_2 discharge controls, appear to be passive and long-lived and as such, are subject to an AMR. Discuss if these components should be subject to an AMR or provide justification for their exclusion.

RESPONSE TO PART 6 OF RAI - 2.3.4 - FPS - 3:

The diesel generator building Cardox CO_2 system components are in scope for license renewal and have been included in Table 2.3.4-18 as piping (includes caps, plugs, and vents), nozzles, and valves. Manual hose reels are active. The passive, long-lived components of a hose reel station are subject to AMR. The passive, long-lived components are also included in Table 2.3.4-18 as piping, nozzles, and valves. The movable reel is active and not subject to AMR. The hose is short-lived and not subject to AMR.

PART 7 OF RAI - 2.3.4 - FPS - 3:

Exclusion of certain fire protection components from the scope of license renewal and from an aging management review

7. Hose Stations:

LRA drawing Volume 2, HL-21016, "Turbine Building Fire Protection System P&ID," highlights all hose stations within the scope of license renewal. However, Table 2.3.4-18, "Component Groups Requiring an Aging Management Review," does not include hose stations in an AMR. In a July 6, 2000 phone call with the applicant, they stated that hose stations are included within the scope of license renewal. They are listed as "piping, nozzles, and valves" instead of as hose stations in Table 2.3.4-18 of the LRA. Verify that this is an accurate statement. Furthermore, hose stations appear to be passive and long-lived; therefore, discuss if hose stations are also subject to an AMR.

RESPONSE TO PART 7 OF RAI - 2.3.4 - FPS - 3:

Hose stations are composed of hoses and long-lived, passive components (piping, valves, and nozzles). Water hoses are subject to the guidance found in NRC correspondence with NEI (Chris Grimes letter to Douglas J. Walters of the Nuclear Energy Institute dated April 20, 1999). The long-lived, passive components are included in Table 2.3.4-18 as piping, valves, and nozzles and are subject to AMR. The water hoses are not subject to AMR.

PART 8 OF RAI - 2.3.4 - FPS - 3:

Exclusion of certain fire protection components from the scope of license renewal and from an aging management review

8. Control Building Fire Protection System

LRA drawing Volume 4, HL-21198, "Turbine Building Fire Protection System P&ID, Sht. 1 of 5," excludes the fire suppression system for the control building (@ 112'-0" elevation) and the lube oil storage tanks. Safety-related equipment is contained in the control building and lube oil storage tanks constitute a large fire hazard to this area. Provide justification for the exclusion of the fire suppression system from the 112'-0" elevation of the control building and from the lube oil storage tanks.

RESPONSE TO PART 8 OF RAI - 2.3.4 - FPS - 3:

The fire area that encompasses the lube oil tanks at this elevation is not included in the regulatory commitments for safe shutdown, and there is no safety related equipment in the locations bounded by this fire area (FHA section 12.1, fire area 2003). The FHA for this specific fire area indicates that a postulated fire is not a threat to safety related equipment. In addition, the safe shutdown analysis of FHA section 9.5 Appendix E does not define this fire area as having any equipment relied upon for safe shutdown. Therefore, the fire suppression system for this area was excluded from license renewal scope. The 3-hour fire-rated barriers for the fire area that encompasses the lube oil tanks and that would contain a fire in this area are included in the scope of license renewal.

RAI - 2.3.4 - FPS - 4:

LRA Section 2.3.4.18 states that the intended fire protection function X43-04 (Plant Wide Fire Suppression With Water), is applicable to portions of L43, T43, U43, V43, W43, X43, Y43, and Z43. The intended fire protection function, designated X43-06 (Fire Detection), is applicable to portions of L43, T43, U43, W43, X43, Y43, and Z43. The intended fire protection function, designated as X43-07 (Penetration Seals and Fire Barriers), is applicable to portions of L48, R90, T43, U43, X43, and Z43.

1. System numbers L43, R90, T43, U43, V43, W43, Y43, and Z43 are not identified or discussed in the LRA. Discuss if any other system numbers were excluded, or omitted from the LRA, that contain fire protection intended functions.

2. The LRA states that each intended function listed above is applicable to only portions of systems. For each intended function, describe how portions of systems were identified and how portions of systems were excluded from the scope of license renewal.

RESPONSE TO RAI - 2.3.4 - FPS - 4:

For simplicity, all fire protection systems are captured by X43 functions for license renewal scoping. This was done because, while the one common system runs throughout the entire plant, including most of the buildings and structures, the system designator is different for the various buildings and structures (example – T43/reactor building, U43/turbine building). Thus for license renewal, the X43 functions encompass the in-scope portions of of fire protection systems with MPLs L43, T43, U43, V43, W43, X43, Y43, Z43, L48, and R90. No other system numbers were excluded or omitted from the LRA that contain fire protection intended functions. With respect to functions, and in a similar manner, X43-06 and X43-07 encompass in-scope portions of fire detection and penetration seals and fire barriers for the various systems (i.e., L43, T43, U43, etc.).

The FHA describes and identifies SSCs required for compliance with 10 CFR 50, Appendix R and Appendix A to BTP APCSB 9.5-1. Each fire protection system and portions thereof were evaluated relative to regulatory commitments in the FHA to determine whether to include or exclude them from the scope of license renewal. See response to RAI-2.3.4-FPS-1 for a description of how SSCs were determined to be in scope for license renewal.

RAI - 2.3.4 - FPS - 5:

The Unit 2 remote shutdown panel (RSP) halon suppression system is identified in the LRA as X43-02. However flow diagram Volume 5, HL-50048, "Fire Protection P&ID Halon System for Panel 2C82-P001," identifies the intended function in the red block for the Unit 2 halon suppression system as X43-06 (Fire Detection), even though portions of the flow diagram are clearly marked with the X43-02 intended function. Please provide clarification regarding the intended function(s) of this system.

Certain components do not appear to be considered within the scope of license renewal for X43-02. The flow diagram includes within scope, the following components: Halon bottle, photo-electric smoke detector, halon nozzle, and piping. In a July 6, 2000 phone call, the applicant identified that the halon nozzle and piping are listed in Table 2.3.4-18 as nozzles and piping and are included within the scope of license renewal and subject to an AMR.

Components such as halon bottles have been subject to an AMR in previous license renewal reviews. However, the applicant excluded the Halon bottle from an AMR. In a July 6, 2000 phone call, the applicant stated that they consider these components short-lived and thus excluded them from an AMR. Provide the basis for the determination that halon bottles are short-lived components.

RESPONSE TO RAI - 2.3.4 - FPS - 5:

At the time of submittal of the LRA, the remote shutdown panel halon system was in scope for license renewal. However, a recent revision to the FHA has removed the halon system (FHA revision 18C). The halon suppression system is not required inside the remote shutdown panel to meet Appendix R to 10 CFR 50 requirements. The X43-02 function, "Halon Fire Suppression for Remote Shutdown Panel," is no longer relied on to demonstrate compliance with 10 CFR 50.48 (fire protection). Function X43-02 will be revised to indicate it is not in scope at the next LRA update.

RAI - 2.3.4 - FPS - 6:

In accordance with 10 CFR 50.48, the fire hazard analysis identifies that total flooding CO_2 suppression systems are provided in the cable spreading room, computer room, diesel generator rooms, and an internal Halon 1301 system in the Unit 2 remote shutdown panel. To ensure that there are no breaches in supporting structures (walls, floors, ceilings, other barriers) that would lessen the design concentration of CO_2 or Halon 1301 available to suppress a fire, discuss if supporting structures which enclose 10 CFR 50.48-required total flooding areas, are considered within the scope of license renewal and subject to an AMR. Provide justification if they are not.

RESPONSE TO RAI - 2.3.4 - FPS - 6:

Supporting structures that enclose 10 CFR 50.48 required total flooding areas are within the scope of license renewal and are subject to AMR. See response to RAI-2.3.4-FPS-5 for a discussion of the removal from the CLB of the halon fire suppression system for the remote shutdown panel.

RAI - 2.3.4 - FPS - 7:

Appendix D, Section IV.C.2.c of the FHA states that the fire pumphouse contains the following components: a jockey pump for maintaining pressure, an electric driven fire pump, and two diesel driven fire pumps. For protection of these pumps, floor-to-ceiling, 2-hour rated fire barriers are provided between the pumps and a sprinkler system is installed. Flow diagram Volume 2, HL-11848, "Fire Hazard Analysis Fire Protection Pump House," does not show the pumps (casing), the fire barriers, and the sprinkler system components within the scope of license renewal. It appears that these components were provided to satisfy the requirements of BTP APCSB 9.5-1 for compliance with 10 CFR 50.48. Provide justification for the exclusion of these components from within the scope of license renewal and from an AMR.

RESPONSE TO RAI - 2.3.4 - FPS - 7:

The fire pumps and their casings are in scope and shown on boundary drawing HL-11033 sheet 1. The fire pump house sprinkler system is in scope and shown on boundary drawing HL-11304 sheet 10.

The floor-to-ceiling 2-hour rated fire barriers between pumps were not identified in the LRA. These barriers prevent a fire in one pump bay from spreading to an adjacent pump bay and should have been included in the LRA. These barriers will be subject to an AMR and the results provided in a subsequent submittal.

RAI - 2.3.4 - FPS - 8:

The detection system, suppression system, and fire barriers for certain areas in the radwaste building provide protection to prevent the potential for release of radioactive material in the event of a fire. Section 7 of the FHA identifies that the following areas in the radwaste building have suppression or detection or both: Working Floor, RW Exh. Filter Room D005/D006, Radwaste Control Room, Dry Waste Storage Room, and HVAC room - Filter D006/D006.

The following LRA drawings that the staff reviewed exclude the radwaste building fire protection piping from the scope of license renewal: Volume 1, HL-11034, "Fire Protection P&ID - Reactor & Radwaste Buildings," and Volume 1, HL-11304, Sheet 8 of 10, "Unit 1 Fire Prot-P&ID-REAC & RADW Bldgs Charcoal Fltrs." Furthermore, LRA drawings from Volume 2, HL-11839, HL-11842, and HL-11844 appear to exclude fire barriers from within scope.

The staff believes that these systems within the radwaste building are required for compliance with 10 CFR 50.48 for protection in areas where a fire could release radioactive materials to the environment and should be within the scope of license renewal and subject to an AMR. Particularly for those areas identified above. Therefore, provide justification for the exclusion of these systems from within the scope of license renewal and subject to an AMR.

RESPONSE TO RAI - 2.3.4 - FPS - 8:

The fire protection system in the radwaste building, with the exception as noted below, is not included in the regulatory requirements for Plant Hatch because it is not relied upon in FHA section 9.2 Appendix B. There are two fire doors (RW21 and RW30) identified in FHA section 9.2 Appendix B, and these are included in the scope of license renewal (See LRA sections C.2.3.4.3 "Fire Doors", 2.3.4.18 "Fire Protection System [X43]", and Table 3.2.4-18 "Fire Doors"). The west wall of each radwaste building is a fire rated barrier for the east cableway of the corresponding turbine building and is included in scope. See the response to RAI 2.4-2 for additional discussion regarding the west walls of the radwaste buildings.

RAI - 2.3.4 - FPS - 9:

Intended function X43-07, "Penseals and Fire Barriers for Preventing Fire Propagation," identifies that fire doors, fire dampers, and barrier penetration seals required for compliance under 10 CFR 50.48 are within the scope of license renewal and are managed through aging management programs. LRA Table 2.3.4-18 states that Kaowool hold-down straps are within the scope of license renewal and are subject to an AMR.

1. The staff initially thought that the applicant's review of Kaowool was limited to the hold-down straps, and did not include the Kaowool fire barrier within the scope of license renewal. In a July 6, 2000 phone call with the applicant, the applicant stated that a typographical error occurred and that Table 2.3.4-18 should state, "Kaowool & hold-down straps". Please verify that this is an accurate statement.

2. During the phone call, the applicant stated that Kaowool is included within scope of license renewal and is subject to an aging management review. They referred the staff to LRA Section C.2.3.4.2 which contains details for the Kaowool aging management program. This section states that: "cable tray barriers consist of Kaowool insulation (or an equivalent material) wrapped around safe shutdown required cable trays and the galvanized steel straps and fasteners used to affix the insulation to the trays". This statement appears to contradict a statement made in SECY-99-204, "Kaowool and FP-60 Fire Barriers". It states on page 4 of the SECY, that 8 plants were identified by the NRC staff that use Kaowool or FP-60 to protect the post-fire safe shutdown capability. Hatch was one of the plants identified. It also states that the NEI, after contacting each licensee, reported to the staff that the Hatch licensee voluntarily elected to eliminate the use of these barriers to meet regulatory requirements. Please clarify if Kaowool is currently required for compliance with 10 CFR 50.48, Appendix R at Hatch for protection of safe shutdown required cable trays

RESPONSE TO RAI - 2.3.4 - FPS - 9:

Kaowool fire retardant material and its equivalent, as well as the associated hold-down straps, are included in the scope of license renewal. As stated in the July 6, 2000 phone call, Kaowool and Kaowool hold down straps were intended to be included in the line item in Table 2.3.4-18. Both are subject to AMR.

Kaowool, or its equivalent, in conjunction with other fire protection features, provides a level of safety at Plant Hatch's intake structure equivalent to that provided by 10 CFR 50 Appendix R for protection of safe shutdown required cable trays. The regulatory basis is provided in NRC letters dated April 19, 1984 (to Mr. J. T. Beckham, Jr., Georgia Power Company, Docket Nos. 50-321 & 366) and January 2, 1987 (to Mr. James P. O'Reilly, Georgia Power Company, Docket Nos. 50-321 & 366). These letters address exemption requests submitted by Georgia Power Company concerning fire protection in the intake structure. Specifically, the letter dated April 19, 1984 stated that the fire protection system in the intake structure, with committed modifications, provided a level of safety equivalent to that provided by paragraph III.G.2 to 10 CFR 50 Appendix R. Based on

this equivalency, NRC granted Georgia Power Company's request that the intake structure not be required to have an area wide automatic fire suppression system. In the letter dated January 2, 1987, NRC recognized that all cable trays in the intake structure were wrapped with Kaowool and stated that Georgia Power Company's exemption request regarding the 20ft. separation criteria of paragraph III.G.2 to 10 CFR 50 Appendix R was granted. Kaowool, or its equivalent, also satisfies divisional separation of redundant cable trays in the intake structure per Regulatory Guide 1.75 and reduces combustible loading per Appendix A to Branch Technical Position APCSB 9.5-1.

Other than the intake structure, Kaowool, or its equivalent, is not used in any areas of the plant for compliance with 10 CFR 50 Appendix R requirements. Kaowool, or its equivalent, is used in other areas of Plant Hatch for compliance to Regulatory Guide 1.75 (divisional separation) and to reduce the combustible loading per Appendix A to Branch Technical Position APCSB 9.5-1.

RAI - 2.3.4 - FPS - 10:

LRA Section A.2.1.3 states that the fire protection system design was reviewed against the applicable NFPA codes. NFPA 25, Section 2.3.3.1, "Sprinklers," states that "where sprinklers have been in place for 50 years, they shall be replaced or representative samples from one or more sample areas shall be submitted to a recognized testing laboratory for field service testing." As part of the fire protection license renewal programs at Hatch, discuss if NFPA 25 will be implemented to ensure that any aging effects have not degraded the sprinkler and its components from the original performance criteria as intended by the listing. If NFPA 25 will not be implemented at Hatch, provide justification and evidence that other means to detect aging of sprinklers, equivalent to NFPA 25, are available through plant-specific programs and procedures.

RESPONSE TO RAI - 2.3.4 - FPS - 10:

Although Plant Hatch uses NFPA 25 as general design guidance, Hatch is not committed to compliance with it. Hatch is committed to regulatory requirements as described in the FHA. This compliance is performance and condition monitoring based and uses periodic surveillance to establish system/component operability. Plant Hatch has no regulatory commitments with respect to component life for fire protection system components. NFPA 25 is not required to be implemented at Plant Hatch with respect to replacing sprinklers that have been in place for 50 years. Sprinklers are included in the scope of license renewal, and aging effects, as well as programs for managing these aging effects, for sprinklers are described in AMRs.

RAI - 2.3.4 - IA - 1:

Unit 2 FSAR Section 9.3.1.2 states that the instrument air system includes an air dryer and two 100% capacity pre- and after-filters connected in parallel. Based on the information provided in the license renewal application, the staff cannot conclude with reasonable assurance that these components should not be subject to an AMR. Provide an AMR for these components or explain why the air dryer and filters are not included in Table 2.3.4-9 for aging management review.

RESPONSE TO RAI - 2.3.4 - IA - 1:

For the instrument air system at Plant Hatch, the only equipment that are in-scope for License Renewal are the gas accumulators and the piping and isolation valves that form a pressure boundary for the accumulators. These commodities are identified on drawings HL-11667, HL-16251, HL-16299, HL-26066, and HL-28023. During normal operation, the accumulators are filled with dry nitrogen. The Hatch FSAR (Unit 1 Section 10.11 and Unit 2 Section 9.3.1) states that the accumulators can be utilized following a design basis accident to provide additional operational flexibility for certain air-operated valves.

The air dryers, filters, and compressors (and their associated equipment) are not relied upon to perform a safety function and are not credited in the CLB for compliance with any of the regulations identified by the Rule. The design of the gas accumulators, including the check valves that isolate the accumulators from the rest of the instrument air system, prevents a failure in the not-in-scope equipment from inhibiting an intended function of SSCs that are in-scope for license renewal.

As such, the dryers, filters, and compressors are not in scope for Plant Hatch and are not included in Table 2.3.4-9 of the LRA.

RAI - 2.3.4 - IA - 2:

Unit 2 FSAR Section 9.3.1.4 states that the instrument air system includes instrument air accumulators. The staff believes the accumulators perform their intended function with no moving parts and are not replaced based on qualified life of specified time period. Therefore, they are subject to an aging management review (AMR). Explain why the accumulators are not included in Table 2.3.4-9 for aging management review.

RESPONSE TO RAI - 2.3.4 - IA - 2:

The accumulators are identified as "air receivers" in Table 2.3.4-9.

RAI - 2.3.4 - IN - 1:

10CFR54.4 defines the SSCs that are in the scope of license renewal. The first criterion states, in part, that safety-related SSCs which are relied upon to remain functional during and following design basis events to ensure the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposure comparable to the 10 CFR 100 guidelines are within the scope of license renewal. Section 9.4.2.2.3 of the Hatch Unit 2 FSAR states that the ECCS room coolers are safety-related systems. Section 2.3.4.15 (Reactor Building HVAC System) of the Hatch LRA states that one of the purposes of the ECCS room coolers is to "provide a source of cooling to support the operation of the emergency core cooling system." This section further states that the ECCS and corner room coolers are "designed to operate during and following a design basis accident to support the operation of those systems required to mitigate the consequences of an accident." Section 2.3.4.3 of the Hatch LRA states that insulation is "credited in heat load calculations for safety-related rooms, and that failure of this insulation could allow the heat load of the room to exceed the capability of the HVAC system, thus exceeding the design temperature of the room." These statements imply that pump room piping and component insulation for ECCS systems (i.e., HPCI, LPCI and LPCS) should be included in the scope of license renewal because the insulation is relied upon to insure that the HVAC system, and consequently, the ECCS can perform their safety functions. However, our review of drawings HL-16002, HL-16328, HL-16329, HL-16330, HL-16331 HL-16332, HL-16333 and HL-26020 found no indication that insulation in these areas is considered to be in scope. Please provide the basis for concluding that the insulation in these areas is not within the scope of license renewal. This request also applies to Unit 1 if that unit also has ECCS room coolers. It is not clear from the FSAR for Unit 1, or from the Hatch LRA, if Unit 1 has ECCS room coolers.

RESPONSE TO RAI - 2.3.4 - IN - 1:

The insulation for heat bearing piping and equipment located in the following ECCS rooms is included in the scope of license renewal:

1. Unit 1 & 2 RHR and Core Spray diagonals (northeast corners);
2. Unit 1 & 2 RHR and Core Spray diagonals (southeast corners);
3. Unit 1 & 2 HPCI rooms.

RAI - 2.3.4 -IN - 2:

Table 2.2-1 and Section 2.3.4.15 indicate that the reactor core isolation cooling (RCIC) and CRD room coolers are also in the scope of license renewal. Specifically, Section 2.3.4.15 states that the "room coolers for the RCIC and the CRD pump rooms provide reliable operation of the RCIC and CRD pumps. The RCIC and CRD pump room cooling units are not required for a safe plant shutdown following major accidents." However, SSCs within the scope of license renewal are those which are required to function during and following design basis events as defined in 10 CFR 50.49. 10 CFR 50.49 defines design basis events as conditions of normal operation, including anticipated operational occurrences, design basis accidents, external events, and natural phenomena for which the plant must be designed to ensure: 1) the integrity of the reactor coolant pressure boundary, 2) the capability to shut down the reactor and maintain it in a safe shutdown condition, and 3) the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to the 10 CFR 100 guidelines. Accordingly, are there design basis events other than the "major accidents" (e.g., main steam isolation, feedwater isolation, ATWS, small break LOCA, etc.) mentioned in Section 2.3.4.15 of the Hatch LRA that require the RCIC or CRD pump room coolers to successfully mitigate the event. If so, is the insulation credited in the calculations to size the coolers? Our review of drawings HL-16332, HL-16334, HL-16335 and HL-26023 found no indication that insulation in these areas (i.e., the RCIC and CRD pump rooms) are considered to be in scope. Please provide the basis for concluding that the insulation in these areas are not within the scope of license renewal.

RESPONSE TO RAI - 2.3.4 -IN - 2:

The Plant Hatch CLB contains no design basis events that require either the RCIC or CRD pump room coolers to successfully mitigate the event. The CRD pump room coolers are not required for safe plant shutdown following major accidents, perform no safety related function, and no credit is taken for insulation in the calculations to size the room coolers. Therefore, piping and equipment insulation in the CRD pump room is not in scope for license renewal.

At Plant Hatch, RCIC is a nonsafety-related system that is treated as safety related. It is, however, used to demonstrate compliance with regulatory requirements related to station blackout and fire protection. Consistent with specific staff guidance provided in the draft Standard Review Plan, Table 2.1-2, cascading has not been applied to those components that are in scope solely because they are used to demonstrate compliance with regulatory requirements. Thus, although the heat bearing piping and equipment insulation in the RCIC pump room is not required to be in scope for license renewal, it is conservatively included. Individual insulation segments for heat bearing piping and equipment are not depicted on boundary drawings.

RAI - 2.3.4 - IN - 3:

Section 2.3.4.3 in the LRA provides a brief description of the purposes of insulation and examples of systems where the insulation is in scope. Our review of the drawings for the service water and RHR service water systems noted that an inadequate level of detail was provided. We reviewed the following service water system drawings which are indicated as having in-scope piping insulation functions outside of the drywell:

1- Drawing DL-11001, "P&ID for Service Water Piping at Intake Structure, Sheet 1"

2- Drawing DL-11004, "P&ID - R.H.R. Service Water Outside Building"

3- Drawing HL-11600, "P&ID for Service Water @ Diesel Generator, Sheet 2"

4- Drawing HL-21033, "Turbine Building Service Water System P&ID, Sheet 1"

5- Drawing HL-21039, "R.H.R. Service Water System P&ID"

Our review of these drawings noted specific problems or limitations with the information provided. Specifically,

1- It is clear from the drawings and discussions with the Hatch staff that none of the scoping drawings were generated specifically for the piping insulation. This makes the review difficult because if a pipe is in scope, its associated insulation may not be. This makes the system functional designations (shown in green in the drawing) very important because they provide the only means for determining which insulation is considered in-scope (whereas in-scope piping is shown in red). Our review of the service water drawings indicates that in many cases, if system piping is already shown on the drawings as being in scope based on the function of the piping system, inadequate additional functional indication was provided for the insulation. This makes it impossible to determine from some of the drawings the extent of insulation that is considered by the applicant to be in scope.

2- Similarly, no indication is provided on the drawings indicating whether all or a portion of the piping is outside or inside a building. Since one of the functions of insulation is to prevent piping from freezing in cold areas, this is a critical point for our review.

3- In cases where insulation is indicated on the drawings, it is not always clear what forms the boundaries where the insulation becomes in scope or not in scope. For instance, on drawing DL-11001, there are two instances where an insulation boundary is indicated in the middle of a straight piping run at no apparent physical boundary or system component. These two examples are located at positions B-4 and B-2 on the drawing. Similar examples are found on HL-21033 at G-1 and C-6. The bases for the changes in scope at these points is unclear. Almost all of the indications for in-scope insulation in this drawing are for instrument, vent and drain lines. It seems logical that if so many of the instrument, vent and drain lines have in-scope insulation, the

associated service water piping would also have in-scope insulation on them as well. Very little indication is provided on the main service water piping in these drawings. Insufficient information is provided on this drawing or in the application to review this system.

4- Drawing DL-11004 is the P&ID for the RHR Service Water System, which is outside of the reactor building. Almost all of the piping is shown as being in scope. Yet, the only insulation shown as being in scope are two 1-inch drain lines (at positions C-2 and D-2 on the drawing). If all of the piping is outdoors, and all is in scope, then the associated piping insulation should be in scope because it prevents freezing of the pipes and ensures that the RHR service water system can perform its safety function. No such indication is provided. Drawing HL-21039 for Unit 2 is similar; however, the drawing specifically indicates the reactor building boundary. However, no insulation outside the reactor building is shown as being in scope except for two 1-inch drains and a capped connection. Insufficient information is provided on this drawing or in the application to review the insulation scope for this system.

5- Similarly, Drawing HL-11600 is the P&ID for service water to the diesel generators. The drawing only indicates in-scope insulation on four differential pressure indicating switches and one 1-inch vent line. No indication is provided for insulation scope anywhere else on the drawing. There is also no indication on the drawing of the location of the piping (indoors or outdoors). Insufficient information is provided on this drawing or in the application to review the insulation scope for this system.

Please provide updated drawings with additional detail for the drawings cited above and/or provide a written description to clearly define the boundaries of in-scope piping and component insulation, as well as provide indication of the physical location of the piping systems (e.g., from the point the pipe exits the reactor building, etc.) when the location forms the basis for defining which insulation is in scope. Be sure that the information provided addresses the specific problems cited above, and includes the bases for the piping insulation that is considered "not in scope."

RESPONSE TO RAI - 2.3.4 - IN - 3:

The following responses are numbered to correspond to the numbering in the RAI:

1. While none of the boundary drawings were generated specifically for insulation, the L36-02 green functional designators on the piping schematics depict where the insulation function begins and ends. The SNC system of boundary documentation utilizes multiple functions superimposed on a single drawing for simplicity, and to be compatible with the plant document control system, which recognizes one drawing number for a given piping schematic. It is SNC's view that this system of multiple functions on one drawing is accurate and adequate to illustrate the insulation functional boundaries.

2. All in-scope, L36-02 insulation shown on the referenced drawings is located on outside piping that may be exposed to freezing conditions. The insulation functional boundaries are at walls and floors (buildings, valve boxes, etc.) or where piping penetrates the ground. These interfaces are denoted by a

"L36-02/Y29-01" flag, where Y29-01 is the wall, floor, or yard (buried interface) function. Piping on the Y29-01 side of the flag either is inside or buried. Notes or narratives describing this were not placed on the drawings in order to minimize drawing congestion.

3. The insulation becomes in scope or not in scope at building or valve box wall/floor penetrations or where the pipe penetrates the ground. These interfaces are denoted by a "L36-02/Y29-01" flag, where Y29-01 is the wall, floor, or yard (buried interface) function. Piping on the Y29-01 side of the flag either is inside or buried. As described above, this level of detail was not included in notes or narratives in order to minimize drawing congestion. In addition, the piping schematics used as boundary drawings afford little, if any, physical location information. The basis for the changes in scope at these points is that the pipe transitions from outside conditions to environmentally controlled inside conditions or the pipe becomes buried. In either case, the piping is not exposed to freezing conditions. Small bore outside instrument, vent and drain lines are insulated per plant design, and are in scope for license renewal. Outside large bore service water pipe (12-in. and larger) is not insulated per plant design.

4. Only the insulation for small bore in-scope lines is in scope for license renewal. See response to subpart 3 above for large bore piping insulation.

5. Much of the pipe depicted on HL-11600 is buried and the balance is located in a valve box where it is exposed to outside conditions. The large bore piping in the valve box (12-in. and larger) is not insulated (see response to RAI-2.3.4-IN-3 item 3 above for explanation). The 1-in. instrumentation and vent lines are insulated and included in the L36-02 function. The 8-in. P41-HEE lines, 10-in. P41-HEE lines, and the 6-in. P41-HEE line are in the valve box and were inadvertently omitted from the L36-02 boundary. Drawing HL-11600 will be revised to add these lines. In a similar manner for drawing HL-21033, the 8-in. P41-HEE lines and 10-in. P41-HBC lines are in a valve box and were inadvertently omitted from the L36-02 boundary. Drawing HL-21033 will be revised to add these lines.

As described in the above responses to individual issues, SNC believes the boundary drawings adequately reflect the in-scope, L36-02 insulation function. All interfaces for outside insulation occur at building or valve box walls/floors and at interfaces with the surface for buried pipe. These interfaces are denoted by a "L36-02/Y29-01" flag. All L36-02 boundaries for outside pipe begin or end at one of these types of interfaces. Since piping schematics were used as boundary drawings, little, if any, physical location information is available and explanatory narratives are not used since they would create drawing congestion. Insulation for small bore pipe or tubing exposed to freezing conditions is in scope. Insulation is not required to prevent freezing on large bore outside service water piping (12-in. and larger) and is thus not in scope, even if installed. Service water system piping and equipment located inside the environmentally controlled service water intake structure are not exposed to freezing conditions, and the associated insulation, if any, is not in scope. Also, pipe that is buried is not exposed to freezing conditions and has no insulation.

RAI - 2.3.4 - IN - 4:

The Standby Liquid Control System (SLCS) is utilized to mitigate an anticipated transient without scram (ATWS) event. For this reason, the portions of the system that perform a reactivity control function are considered as being in scope. Drawings HL-16061 and HL-26009 show the in-scope piping and insulation for the SLCS for Units 1 and 2. The SLCS storage tank is shown as being in scope. Section 4.2.3.4.1 of the Hatch, Unit 2, FSAR indicates that temperature is very important to the SLCS in order to ensure that the boron does not precipitate out. As a result, the SLCS is heated in the storage tank and in the suction piping (heat trace) to ensure that liquid temperature is maintained between 65°F and 75°F. The drawing indicates that the suction piping from the storage tank has in-scope insulation on it, but a similar indication is not shown for the storage tank itself. Is the storage tank insulated, and if so, what is the basis for concluding that the tank insulation is not in scope?

RESPONSE TO RAI - 2.3.4 - IN - 4:

The SLC storage tank is insulated. However, the storage tank insulation is not included in the scope of license renewal. The insulation is not credited with maintaining the sodium pentaborate in solution. The storage tank is located in an environmentally controlled area of the plant. The minimum SLC system room temperature is 70 °F. The tank is also electrically heated internally to maintain the solution at a 10-degree margin above its saturation temperature to prevent precipitating sodium pentaborate from solution (Unit 2 FSAR sections 4.2.3.4 and 7.4.2). Considering that the minimum room temperature is above the precipitation temperature of the sodium pentaborate solution (approximately 50 °F, including the 10-degree margin), there is reasonable assurance that the tank heater can maintain solution temperature above the precipitation temperature, even if there were no tank insulation.

RAI - 2.3.4 - IN - 5:

Similar to the previous question, Drawings HL-16061 and HL-26009 for the SLCS indicates that the piping insulation for the SLCS is in scope from the storage tank up to the suction of the pumps. What is the basis for concluding that the pump insulation and all discharge piping insulation is not in the scope of license renewal? This insulation would still be important to ensuring retention of heat in the process piping and prevention of precipitation of boron in the piping.

RESPONSE TO RAI - 2.3.4 - IN - 5:

Pump and discharge piping insulation is not included in the scope of license renewal. Only the insulation from the storage tank to the pump suction is in scope, with these lines being heat traced to assure that the sodium pentaborate does not precipitate out of solution in the pump suction piping (Unit 2 FSAR sections 4.2.3.4 and 7.4.2)

Since the pumps do not normally operate, no significant amounts of sodium pentaborate solution are normally in the positive displacement pump or pump discharge piping. A spring-loaded check valve is integral to the pump assembly and located in the pump's cylinder head to preclude significant quantities of fluid from entering the pump suction unless the pump is operating.

RAI - 2.3.4 - IN - 6:

Section 2.3.4.5 of the LRA states that the Condensate Storage Tank (CST) is in scope because it is the preferred source of water for the HPCI and RCIC systems. The piping insulation for both of these systems is indicated as being in scope from the CST suction to the point near the piping enters into the secondary containment (See drawings HL-16332, HL-26020, HL-16334 and HL-26023). Is the CST insulated, and if so, what is the basis for concluding that the CST insulation is not in scope? Based on the drawings, it appears that the CST is located outdoors which is further supported by the indication of the RCIC and HPCI piping insulations being in scope. CST insulation would assist in ensuring that the CST water does not freeze and prevent the RCIC and HPCI from performing their safety functions.

RESPONSE TO RAI - 2.3.4 - IN - 6:

The Plant Hatch CSTs are not insulated.

RAI - 2.3.4 - IN - 7:

Drawings HL-16332 and HL-26020 for the HPCI system shows that the insulation on the HPCI suction piping from the CST is in scope until a point very near where the piping enters the secondary containment. Drawing HL-16334 indicates a similar scope for the RCIC suction piping insulation, except that the point at which the insulation ceases to be in scope appears to be some undefined distance from the point that the piping enters the secondary containment. What defines the point at which the insulation ceases to be in scope and what is the basis for selecting that point for the transition? (Note: For Unit 2, Drawing HL-26023 does not indicate where the insulation ceases to be in scope for RCIC)

RESPONSE TO RAI - 2.3.4 - IN - 7:

The point at which the insulation ceases to be in scope is where these lines penetrate the CST concrete foundation as denoted by a "L36-02/Y29-01" flag. Since these lines continue embedded in the concrete, no insulation is required.

RAI - 2.3.4 - IN - 8:

Drawing HL-11033, Sheet 1, for the fire protection system indicates that the suction piping insulation for the fire protection system is in scope from the two 300,000 gallon fire protection storage tanks until the piping enters the fire pump house. The fire protection storage tanks themselves are also indicated as being in scope. Are the fire protection storage tanks insulated? If so, please provide the basis for concluding that the tank insulation is not in the scope of license renewal.

RESPONSE TO RAI - 2.3.4 - IN - 8:

The Plant Hatch fire protection storage tanks are not insulated.

RAI 2.3.4-OSHVAC-1:

Several components, identified on P&ID HL-44073 as being within the scope of license renewal, are not included in Table 2.3.4-17 of the LRA. Table 2.3.4-17 lists the components subject to an AMR for the river intake structure HVAC system (RISHVACS). The components listed below perform their function without moving parts or a change in configuration or properties and are not replaced based on qualified life or specified time period, and thus should be subject to an AMR. Identify whether the following components are subject to an AMR, and if so, provide the relevant information about the components to complete Table 2.3.4-17. If a component is not subject to an AMR, provide a justification for its exclusion.

a. Roof-mounted exhaust ventilators housing (each with backdraft damper and vent fan), (HL-44073 @ G8,G9, and G10)

b. Wall-mounted unit heater housing (HL-44073 @ F7)

c. Gravity-operated louvers (each with inlet screen), (HL-44073 @ D6 and E6)

RESPONSE TO RAI 2.3.4-OSHVAC-1:

The response for each question is given below:

a. The roof-mounted exhaust ventilator housing is a part of an active component (fan and damper assembly - see NEI 95-10, Rev. 0, Appendix B, Items 155 and 163). Consequently, no AMR is required.

b. The wall-mounted unit heater housing is a part of an active component (heater). Consequently, no AMR is required.

c. The gravity-operated louvers with inlet screens are active components. Consequently, no AMR is required.

RAI - 2.3.4 - PCCW - 1:

10 CFR 54.4 provides the criteria for determining the structures, systems and components (SSCs) that are within the scope of license renewal. One of the criteria is that SSCs are important to license renewal if they are "relied upon to remain functional during and following design basis events...." Section 2.3.4.10 of the Hatch LRA states that the only safety-related function of the primary containment chilled water system (PCCW) during an accident is to maintain primary containment integrity via a closed system loop inside of containment. Consistent with this statement, the P&ID for the Unit 2 PCCW (Drawing number HL-26081) only shows the system inside the primary containment isolation valve as being in the scope of license renewal. However, Section 9.4.6.2.1, of the Hatch, Unit 2, FSAR, states that the drywell cooling system is relied on during a loss-of-offsite power (LOSP) event to maintain the drywell temperature below 165 degrees Fahrenheit. Since the PCCW provides the heat removal function for the drywell cooling system, it is reasonable to assume that chilled water is also needed during this design basis event. This conclusion is further supported by Table 2.2-1 of the Hatch LRA that states that the PCCW is in the scope of license renewal for its drywell cooling function. Based on this, it seems reasonable that all portions of the PCCW that are involved in the drywell cooling function would be in scope, including the system piping and components outside the drywell, and support components such as piping insulation inside and outside the drywell. Please explain the basis for excluding chilled water piping/component insulation and all portions of the PCCW outside of the primary containment isolation valve from being within the scope of license renewal.

RESPONSE TO RAI - 2.3.4 - PCCW - 1:

In section 9.4.6.3 of the Unit 2 FSAR, the drywell cooling system is described as "not a safety design system." This description is in keeping with the Plant Hatch CLB and design bases. The Plant Hatch safety analysis does not credit the drywell cooling system for HELB and LOCA design basis accidents, concurrent with a loss-of-offsite power (Ref. Letter to NRC from Georgia Power, May 3, 1991). In addition, the drywell cooling system is not relied upon to control drywell temperatures in a station blackout. The NRC concurred with these conclusions in SERs issued March 5 and November 1, 1991. Therefore, the primary containment cooling function provided by the chilled water system is not an in-scope function.

RAI - 2.3.4 - PCCW - 2:

Because of the containment integrity function of PCCW, all piping and components inside of containment are indicated as being within the scope of license renewal (as shown on drawing number HL-26081) except drain and vent piping downstream of the vent or drain valves. Primary containment integrity is maintained by this system because it is a closed loop inside containment. Logically, it is reasonable to assume that the drain and vent piping also forms part of the closed loop. What is the basis for excluding the drain and vent piping from the scope of license renewal?

RESPONSE TO RAI - 2.3.4 - PCCW - 2:

The piping downstream of the vent or drain valves is not required to maintain a closed loop inside containment, because the drain and vent valves are normally closed and the piping is not required to perform the pressure boundary function. Therefore, it is excluded from the scope of license renewal.

RAI - 2.3.4 - PSW - 1:

Section F1 of Drawing HL-11600, function P41-02 boundary (turbine building isolation) ends in the middle of a 30-inch pipe. The rest of the pipe is not in scope for license renewal. Most functional boundaries end at a valve or component and not in the middle of the pipe. The 30-inch pipe continues to section D8 of Drawing HL-11024. Provide justification as to how the safety function of ensuring that the non-essential loads in the turbine building are isolated is maintained when the 30-inch pipe is not isolated by a valve or component at the current location.

Additionally, Section A11 and F11 of Drawing HL-21033, function P41-02 also ends in the middle of a 30-inch pipe. For Section F11, the functional boundary ends at the transition from seismic Category I to seismic Category II. Provide justification as to how the safety function of ensuring that the non-essential loads in the turbine building are isolated is maintained when the 30-inch pipe is not isolated by a valve or component at the current boundary location.

RESPONSE TO RAI - 2.3.4 - PSW - 1:

In drawing HL-16000 the two individual safety related divisions, Division I and Division II, combine to form one supply header to supply cooling water to nonsafety-related components in the turbine building, recombiner building, radwaste building, and the waste gas building. Valves 1P41-F310A-D are located in Division I and II headers. These valves provide means of isolating nonessential (nonsafety) loads from the rest of the system and ensure that a pipe break in the turbine building will not deprive the safety related components of cooling water. Turbine building service water flow is monitored by differential pressure switches (safety related) shown downstream of the isolation valves. These switches provide alarm in the Control Room on high-flow conditions, so the operator can initiate action to close the valves. The isolation valves and differential pressure switches are located in the locked-closed valve pits located in the yard east of the diesel building. Downstream of the isolation valves and differential pressure switches, the Division I and Division II headers penetrate the valve box concrete wall and continue underground. The valve box wall anchors the headers. The P41-02 boundary ends at the valve box wall, because the piping in the valve box is seismically qualified and this is the first anchor past the isolation valves. Drawing HL-11600 is a piping schematic and affords little, if any, physical information such as the location of a valve box wall. Thus, the P41-02 boundary appears to end in the middle of a 30-inch line but actually ends at an anchor.

Drawing HL-21033 depicts a similar configuration for Unit 2.

RAI - 2.3.4 - PSW - 2:

Sections D4 through D2 of Drawing HL-11609, function P41-01 boundary (essential mechanical and environmental support) ends at a 4-inch pipe, i.e., the rest of P41-01 boundary is not in scope (NIS) for license renewal. This line appears to be a header for the discharge of the 3 main control room (MCR) HVAC units. The control room HVAC system is designed to provide cooling and a controlled environment for personnel safety and habitability in the control room during normal and accident conditions. Also, the system provides a controlled temperature to ensure the integrity of the MCR components. Provide justification as to how the safety function of this system is maintained when the 4-inch pipe is not isolated by a valve or component at the current boundary location.

RESPONSE TO RAI - 2.3.4 - PSW - 2:

The return lines from the condensing units Z41-B008A, B, and C tie into a 4-in. header, which eventually ties into a 14-in. return line in the turbine building (F-2). These units are situated on the roof of the control building. To avoid flooding the roof, the return line from the units is seismically qualified to the first support beyond the parapet wall. This portion of piping is included in scope for license renewal. The line beyond the parapet wall enters the turbine building and is, therefore, not seismically qualified. Review of the stress isometric verifies that these lines on the roof have been seismically evaluated (Seismic Category I) and qualified. Since these lines include a portion of the 4-inch return header, the boundary drawing will be revised to include this portion of the header up to the first support after the parapet wall.

RAI - 2.3.4 - PSW - 3:

Section B5 of Drawing HL-11004 has a line which provides seal and prelube water to the RHR service water (RHRSW) pumps. This line is not indicated as being within the scope of license renewal. Seal water is important for the protection of the RHRSW pumps. RHRSW provides a reliable supply of cooling water to the reactor pressure vessel (RPV) following a loss of RHR/core spray or to flood the primary containment to provide cooling to the exterior of the reactor vessel using raw river water. Provide a justification for exclusion of the RHRSW pump seal and prelube water piping from the scope of license renewal.

RESPONSE TO RAI - 2.3.4 - PSW - 3:

The Unit 1 FSAR (page 10.6-3) states that during emergency conditions, the RHRSW pumps may be started without sanitary seal water. The CLB specifies this portion of the system as nonsafety-related.

As a commercial consideration, three to five gal./min. of sanitary water is provided for pump seal and bearing lubrication during pump starting. The main purpose of the clean flush is to extend the life of the packing and bearings and shaft of the pumps. Emergency operation with no external flush will not affect the intended function of the pump. Sanitary water is not safety related.

RAI - 2.3.4 - PSW - 4:

Section A11 of Drawing HL-21035, function 2P41-01 boundary becomes NIS at the transition from seismic Category I to seismic Category II piping. There is no valve or component at this location. Provide a justification as to how the safety function of mechanical and environmental support is maintained when the 6-inch pipe is not isolable by a valve or component at the current boundary location.

RESPONSE TO RAI - 2.3.4 - PSW - 4:

The 2P41-01 boundary extends to the first anchor beyond the isolation valve (2P41-F1175) used to isolate safety related piping from nonsafety-related piping. Although valve 2P41-F1175 provides the safety related interface, the pipe is seismically qualified (Seismic Category I) up to the anchor. Thus, the license renewal boundary (2P41-01) extends to the anchor to encompass the Seismic Category I piping run.

RAI - 2.3.4 - PSW - 5:

Sections J5 and J7 of Drawing HL-21033, function P41-01 boundary becomes function P41-03, which is NIS for license renewal. The purpose of this piping is to provide loop seal cooling to the diesel generators. However, the P41-01 boundary does not end at a valve or component. Provide a justification as to how the safety function is maintained when the 6-inch pipe is not isolable by a valve or component at the current boundary location.

RESPONSE TO RAI - 2.3.4 - PSW - 5:

The loop seals to the diesel generator coolers 2A and 2C in drawing HL-21033 were added to keep the diesel generator coolers full with water by preventing the service water from leaving the cooler due to the vacuum created in the service water discharge line to the river. The loop seal and associated components are, therefore, safety related and in-scope for license renewal. The piping downstream of the loop seal connects to the radwaste dilution line. The radwaste dilution line is nonsafety-related and discharges the water to the Altamaha River. Based on stress isometric drawing review, a physical anchor exists on the floor to isolate the safety related line (Seismic Category I) from the nonsafety-related line. The location where the boundary shows the function break is at the anchor. Therefore, the loop seal, along with the anchor, provides assurance that the safety related function and seismic qualification of the subject components will be maintained.

RAI 2.3.4-RBHVAC-1:

Several components, identified on several P&IDs and in the text of LRA section 2.3.4.15 as being within the scope of license renewal, are not included in Table 2.3.4-15. Table 2.3.4-15 lists the components subject to an AMR for the RBHVACS. The components listed below perform their function without moving parts or a change in configuration or properties and are not replaced based on qualified life or specified time period, and thus should be subject to an AMR. Identify whether the following components are subject to an AMR, and if so, provide the relevant information about the components to complete Table 2.3.4-15. If a component is not subject to an AMR, provide a justification for its exclusion.

a. Air-operated valve bodies, air-operated damper housing, and associated ductwork (Unit 1, HL-16005 @ C5, C10, G10, H4; HL-16014 @ C6, F11 and G11, H4 and J4)

b. Safeguards equipment room cooler housing (Unit 1, HL-16023); especially, Control Rod Drive (CRD) pump room cooler housing that is not identified as being in scope.

c. Air-operated valve bodies, air-operated damper housing, and associated ductwork (Unit 2, HL-26067 @ (A5, B5, and C5), F10 and G10; HL-26072 @ C6 and C7, F4 and G4)

d. Safeguards equipment room cooler housing (Unit 2, HL-26071); especially, CRD pump room cooler housing that is not identified as being in scope.

RESPONSE TO RAI 2.3.4-RBHVAC-1:

The following response numbering corresponds to the numbering in the RAI:

a. The air-operated dampers and associated damper operators are active components. The damper operators consist of control valves and piping (.Drawings HL-16005 and HL-16014). These components are active, and therefore, not subject to AMR (NEI 95-10, Rev. 0, Appendix B item 155).

b. The safeguard equipment room cooler housings shown on HL-16023 are in-scope for license renewal. However, the cooler housings are part of an active component (fan-coil unit). Therefore, no AMR is required for these components (NEI 95-10, Rev. 0, Appendix B item 163).

c. The air-operated dampers and associated damper operators are active components. The damper operators consist of control valves and piping (Drawings HL-26067 and HL-26072). These components are active, and therefore, not subject to AMR (NEI 95-10, Rev. 0, Appendix B item 155).

d. The safeguard equipment room cooler housings shown on HL-26071 are in-scope for license renewal. However, the cooler housings are part of an active

component (fan-coil unit). Therefore, no AMR is required for these components (NEI 95-10, Rev. 0, Appendix B item 163).

RAI 2.3.4-RBHVAC-2:

Sealant materials are not identified as being within the scope of license renewal and are not included in Table 2.3.4-15 of the LRA. Verify whether the sealant materials are used to control the unfiltered out-leakage to the outside environment. If so, provide justification for the exclusion of the sealant materials or provide the relevant information about the sealants to complete Table 2.3.4-15.

RESPONSE TO RAI 2.3.4-RBHVAC-2:

The sealant materials used at Plant Hatch to protect against unfiltered out-leakage from secondary containment are in-scope for license renewal and are shown in LRA Table 2.4.5-1. Sealant materials are shown as "panel joint seals and sealants" in Table 2.4.5-1.

RAI 2.3.4-RBHVAC-3:

Identify whether the following components are subject to an AMR, and if so, provide the relevant information about the components to complete Table 2.3.4-15 of the LRA. These components perform their function without moving parts or a change in configuration or properties and are not replaced based on qualified life or specified time period, and thus should be subject to an AMR. If a component is not subject to an AMR, provide a justification for its exclusion:

a. Ductwork (Unit 1, HL-16005 @ G2, G3, G4, and G5)

b. Ductwork (Unit 1, HL-16014 @ G2, G3, G4, and G5)

RESPONSE TO RAI 2.3.4-RBHVAC-3:

SNC performed scoping and screening using the methodology described in Section 2.1 of the LRA. In brief, evaluation boundaries were established for intended functions and the components within the boundaries screened out only based on the Rule provisions (short-lived, active). Using this process, only the highlighted ductwork on boundary drawings HL-16005 and HL-16014 is in scope for license renewal and is subject to AMR. The ductwork at G2, G3, G4 and G5 is not in scope. The in-scope ductwork is shown in LRA Table 2.3.4-15.

RAI - 2.3.4 - RW - 1:

In the Hatch Application for License Renewal, the liquid and gaseous radwaste systems are not identified as within the scope of license renewal or subject to an aging management review (AMR). The applicant has determined that the liquid and gaseous radwaste systems do not meet the requirements of 10 CFR 54.4. The staff would like to confirm the applicant's determination. The scoping requirements of 10 CFR 54.4(a)(1)(iii) refer to the consequences of accidents that could result in potential offsite exposure comparable to the guidelines in 10 CFR Part 100.11. Provide the basis for the conclusion that failure of the liquid and gaseous radwaste systems at Hatch could not result in offsite exposure comparable to the guidelines in 10 CFR Part 100.11.

RESPONSE TO RAI - 2.3.4 - RW - 1:

Unit 1 FSAR Chapter 9 and Unit 2 FSAR Chapters 11 and 15 provide the CLB on which SNC based the conclusion that failure of the liquid and gaseous radwaste systems could not result in offsite exposure comparable to the guidelines in 10 CFR Part 100. In summary, the FSAR states that failure of the system would not cause doses at the plant boundary to exceed the limits of 10 CFR Part 20, which are lower than 10 CFR Part 100 limits. Components having radwaste system MPLs that are associated with primary containment boundary or isolation function are evaluated with those functions.

RAI - 2.3.4 - TSR - 1:

Sections E5 and B5 of Drawing HL-21033, function W33-01 boundary (intake structure trash removal) is not is scope for license renewal as shown on the drawing. However, W33-01 is a function that is included as being within scope. Provide a justification as to why 1W33-01 in Section E5 and 2W33-01 in Section B5 are not within the scope of license renewal.

RESPONSE TO RAI - 2.3.4 - TSR - 1:

Drawing HL-21033, sections B5 and E5, contains an error at valves W32-F002B and W32-F002A, respectively. The function downstream of the valves should be 2W33-02 instead of 2W33-01, and 1W33-02 instead of 1W33-01. The drawing will be revised to reflect the correct functions.

RAI - 2.3.4 - TV - 1:

Table 2.3.4-14 in the LRA provides a list of components supporting the intended functions of the tornado relief vents which are designated as requiring aging management review. Figure 3.3-1 in the Hatch FSAR provides a diagram of the tornado vent structural grill system. The diagram shows two components, which are not listed in Table 2.3.4-14 of the LRA: the tornado vent concrete curb and the tornado vent grill. What are the functions of these components and what are the bases for excluding them from aging management review?

RESPONSE TO RAI - 2.3.4 - TV - 1:

The concrete curb is addressed as part of the reactor building in Tables 2.4.5-1 and 3.3.1-5. The vent grill is primarily for protection against material and debris from falling into the spent fuel pool and does not perform an intended function.

RAI - 2.3.5 - EHC - 1:

Section 2.3.5.1, "Electro-Hydraulic Control System" states that the EHC regulators within the scope of license renewal are 1N11-N042A/B and 2N32-N301A/B. The referenced components of EHC regulators of 1N11-N042A/B and 2N32-N301A/B cannot be found in drawings HL-11601, -11602, and -21012. Please identify them in the drawings. The submittals do not identify all the drawings related to the EHC or related to the intended function of main turbine pressure regulator, N32-02. There is nowhere in the submittal clearly identifying all the drawings related to N32-02. The staff identified three drawings (HL-11601, -11602, -21012) that may be related to the intended function of main turbine pressure regulator, N32-02.

RESPONSE TO RAI - 2.3.5 - EHC - 1:

Three of the four regulators referenced in the RAI are clearly marked on the referenced drawings. There is, however, an error on drawing HL-11601 in that it identifies two separate components as N11-N042B. One of the components should be identified as N11-N042A. The three drawings the staff identified show all components that are in scope for this function. The Unit 1 regulators are shown on HL-11601 at G4 and H4. The Unit 2 regulators are shown on HL-21012 at A5 and B6.

RAI - 2.3.5 - EHC - 2:

Section 2.3.5.1, Electro-Hydraulic Control System (EHC), states that transient analysis takes credit for the backup pressure regulator to function in the event of a downscale failure of the inservice regulator. The staff reviewed the referenced FSAR Sections (Section 11.2 for Unit 1 and Section 10.2A.1 for Unit 2), which describe the turbine overspeed protection function. The FSAR does not discuss a "downscale failure of the inservice regulator." (A) Describe the event of a "downscale failure of the inservice regulator" and explain how the EHC is involved. (B) Identify all the components in the EHC that may be needed for the function of main turbine pressure regulator, N32-02.

RESPONSE TO RAI - 2.3.5 - EHC - 2:

The current Unit 2 FSAR section 15.2.3.8 discusses the event of a "downscale failure of the inservice regulator" but calls it "Pressure Regulator Failure - Closed." The FSAR discusses this event as follows:

> "If the controlling regulator fails in the closed position, the backup regulator takes control of the turbine admission valves, preventing any serious transient. The disturbance is mild, similar to a pressure setpoint change, and no significant reductions in fuel thermal margins occur. The pressure regulator failure - closed event is much less severe than the LRNBP and the TTNBP events described in FSAR paragraphs 15.2.3.1 and 15.2.3.3, respectively."

The EHC system is only involved to the extent that this regulator on Unit 2 is considered part of the EHC system. On Unit 1, the regulator is part of the main steam system. Rather than associate this function with the N11 main steam system for Unit 1 and with the N32 EHC System for Unit 2, SNC chose to describe the function as associated primarily with the N32 EHC system. Only a limited set of components is required for this function. They are the regulators plus the branch piping and valves from the main steam piping to the regulators. All needed components are shown on the drawings referenced in RAI 2.3.5-EHC-1. The main function of the N32 system is turbine control, which is not in scope for license renewal. Since the remainder of the components in the EHC system are not in scope, no drawings were provided for other portions of the system.

This event is only significant if the regulator fails closed without an operable backup regulator, a condition which is beyond the CLB and design basis. Thus, SNC does not believe this function actually qualifies as a nonsafety-related failure that could prevent a safety related function, because offsite dose would not exceed Part 100 limits in this situation. However, SNC conservatively chose to identify these regulators and other components necessary for this function as being in the scope of license renewal.

RAI 2.3.5-MC-1:

In Section 2.3.5.2, "Main Condenser System," the components associated with the intended function of post accident radioactive decay holdup, N61-03, are identified as within the scope of license renewal for Unit 2 only. Explain why N61-03 is not applicable for Unit 1.

RESPONSE TO RAI 2.3.5-MC-1:

Unit 1 was built and licensed without an MSIV leakage control system. Unit 2 was originally licensed with a MSIV leakage control system. That system was subsequently removed with NRC concurrence based on a commitment to include a portion of the Unit 2 condenser and associated piping as the boundary for performing the MSIV leakage control function. Thus, the Unit 1 and 2 licensing bases for the main condensers are different.

RAI - 2.3.5-SPCS-1:

Section 2.3.5, "Steam and Power Conversion Systems," discusses the electro-hydraulic control and main condenser systems only. There is no discussion of main steam, feedwater, or auxiliary feedwater system. These systems provide functions which meet the requirements of 10 CFR 54.4 and as such, are within the scope of license renewal. Are these subsystems within the scope of license renewal? If not, why not? If yes, where are these subsystems discussed?

RESPONSE TO RAI - 2.3.5-SPCS-1:

Refer to the response to RAI 2.2-SR-1. That response summarizes the function-based approach to scoping that was performed using the methodology described in Section 2.1 of the application. The only in-scope function performed by a portion of the feedwater system is captured in function B21-02. The main steam lines upstream of the MSIVs are a part of the B21 - Reactor Coolant System. The main steam system at Hatch only includes piping downstream of the MSIVs. The portion of the main steam lines that performs a reactor coolant pressure boundary intended function is captured in function B21-02. The portion of the main steam system, for Unit 2 only, that performs another intended function is captured in function N61-03 (see response to RAI 2.3.5-MC-1). Portions of these systems are not in scope. Note that since Hatch is a BWR there is no auxiliary feedwater system.

RAI - 2.4 - 1:

For the following LRA sections, the staff is unable to determine with reasonable assurance whether the applicant has adequately identified the components that are included within the scope of license renewal and subject to an AMR. The applicant is required by 10 CFR Part 54.21 to "list and identify" those structures and components subject to an aging management review. The applicant has provided intended functions for the following commodity groups or civil structures groups, and a list of components within each section that are subject to an AMR, but the staff has no way to verify that the list is complete or accurate because no drawing or detailed description was provided in the LRA to define the system boundary. Clarifying statements or additional diagrams are needed to bound the commodity and structures groups so that the staff can make a reasonable assurance finding.

- Drywell penetrations
- Reactor building penetrations
- Piping specialties
- Conduits, raceways and trays
- Intake structure
- Yard structures (description states "Some of the structures..." indicating that there are more structures than those listed)

RESPONSE TO RAI - 2.4 - 1:

SNC believes the NRC review of the scoping and screening methodology presented in Section 2.1 of the application provides the basis for reasonable assurance that structures and components subject to AMR have been adequately identified. The application states, in Section 2.1.3.1, page 2.1-10,

> "Due to the nature of civil/structural functions, evaluation boundary drawings were not produced for intended functions associated with structures; piping, cable tray, and conduit supports; electrical panel and rack supports; secondary containment doors; cranes; tornado vents; and penetrations. Instead, a plan view of the plant site was produced to identify the inscope structures. The evaluation boundary of a structure that is a building included the entire building, including slabs, external and internal walls, roof and internal concrete, steel columns and beams, and framing. Miscellaneous steel items, such as base plates and embedded plates, were also included."

In addition, SNC has responded to a number of requests for information regarding specific structures or components the NRC believed to be in scope. SNC provides the following information regarding the specific items identified in this RAI:

- Drywell penetrations are addressed in Sections 2.4.3, 2.4.6, and 2.5.15 and screening results shown in Tables 2.4.3-1, 2.4.6-1 and 2.5.15-1.
- Reactor building penetrations are addressed in Sections 2.4.7 and 2.5.15 and screening results shown in Tables 2.4.7-1 and 2.5.15-1.
- Piping specialties are addressed in Section 2.4.1 and screening results shown in Table 2.4.1-1.

- Conduits, raceways and trays are addressed in Section 2.4.2 and screening results shown in Table 2.4.2-1.
- The intake structure is addressed in Section 2.4.9 and screening results shown in Table 2.4.9-1.
- Yard structures are addressed in Section 2.4.10 and screening results shown in Table 2.4.10-1. On page 2.4-1 of the application, Section 2.4, the application "[notes] that the intended functions define the boundaries by which various component groups are analyzed for aging management purposes. The system description is informational and is not intended to define boundaries." Not all yard structures are in the scope of license renewal. This is why the application refers to "some of the structures" on page 2.4-19. Only the yard structures that support an intended function are included within the evaluation boundaries described on pages 2.4-19 and 2.4-20.

Supporting information for the scoping and screening of structures pursuant to both the Rule requirements and the scoping and screening methodology described in the LRA is available at the SNC corporate offices for NRC review.

RAI - 2.4 - 2:

Several structures are highlighted as having intended functions on DWG EL-10173, "General Building Site Plan," but are not described in the LRA. These include:

- Units 1,2 Radwaste Buildings West Walls
- Units 1,2 HPCI pump rooms

Identify where in the LRA these structures are addressed or provide a justification for their exclusion from the scope of license renewal.

RESPONSE TO RAI - 2.4 - 2:

The west walls of each radwaste building are in scope because they provide a fire-rated barrier function as described in the FHA. Fire barriers are addressed in LRA Table 2.1-1 and the fire barrier function is addressed in LRA Table 2.1-2. Since the radwaste buildings were not in scope, the west walls were screened as part of reactor building (T29-01) screening records for convenience. Although the west walls of the Unit 1 and 2 radwaste buildings are not specifically called out in the LRA, they are reinforced concrete walls that are included in the reinforced concrete commodities addressed in LRA Section C.2.6.1.

The Unit 1 and 2 HPCI pump rooms are in-scope for license renewal and are included in the reinforced concrete commodity for the Unit 1 and 2 reactor buildings. They were shown on drawing EL-10173, "General Site Plan" as though they might be individual structures, but they are integral parts of the reactor building reinforced concrete substructures, and were included in the concrete commodities addressed in LRA Section 2.4.5, Table 2.4.5-1, Table 3.3.1-5 and LRA Appendix C.2.6.1.

RAI - 2.4 - 3:

The Diesel Fuel Oil Storage Tanks are described in FSAR Section 12.3.3.1.1 as supporting or housing Seismic Class I equipment, but are not included within the scope of license renewal: Identify whether this component type is within the scope of license renewal and subject to an AMR, or justify its exclusion from the scope of license renewal.

RESPONSE TO RAI - 2.4 - 3:

The diesel fuel oil storage tanks are part of Y52, Fuel Oil System (LRA Table 2.2-1). The tanks are listed in Table 2.3.4-19 and are included in boundary drawings HL-11037 and HL-21074.

RAI - 2.4 - 4:

Commodities such as caulking and rubber water stops are often credited in preventing flooding in structures containing safety related equipment, are passive, and are not replaced on a specified frequency. Applicants in previous license renewal reviews have identified these commodities as being within the scope of license renewal and have included them in an aging management review. Where are structural commodities such as caulking, waterstops, and other sealants evaluated in the Hatch LRA to determine whether they are within the scope of license renewal and subject to an AMR?

RESPONSE TO RAI - 2.4 - 4:

The Plant Hatch LRA identifies and lists structures and components subject to AMR. In general, the evaluation of structures and components not subject to AMR is contained in the documentation produced to support the LRA. The following commodities are described in the LRA:

> Seals and sealant materials are addressed in LRA Section 2.4.5, Table 2.4.5-1, Table 2.3.4-20 (Duct Gasket and Duct Flex Connector), Table 3.3.1-5 (Panel Joint Seals and Sealants) and LRA Appendix C.2.6.7.

Rubber water stops were not identified in the LRA because, in general, they do not perform an intended function. They are used in below grade construction joints of reinforced concrete perimeter walls and base slabs of in-scope buildings to prevent in-leakage of water through construction joints in the event of differential settlement that causes a failure of the joint. The three-bulb waterstop located in the joint between the railroad airlock and the reactor building was not identified in the LRA. This waterstop, however, is part of the pressure boundary for the secondary containment and should have been included in the LRA. This waterstop is addressed further in the response to RAI 2.4-RB-3.

RAI - 2.4 - CRT - 1:

It appears from the descriptions of intended functions R33-01/02 that all conduits, raceways, and trays at the Hatch nuclear plant are included within the scope of license renewal (both safety-related and nonsafety-related components). Verify that you intended to include all conduits, raceways and trays at Hatch within the scope of license renewal, or provide clarifying information about which components in the commodity group are within the scope of license renewal.

RESPONSE TO RAI - 2.4 - CRT - 1:

Except for nonsafety-related conduits, raceways and trays and their supports (R33-02) that are not located within in-scope buildings and structures, all conduits, raceways and trays with the intended functions R33-01 (safety related) and the remaining R33-02 (nonsafety-related) components are in scope for license renewal.

RAI - 2.4 - EDGB - 1:

Ventilation for the emergency diesel generators is required for the components to perform their intended function. Ventilation components for both cooling and combustion air and exhaust are not described in the license renewal application. Clarify if these components are within the scope of license renewal and identify where in the LRA they are evaluated. If these components are not within the scope of license renewal, provide justification for their exclusion.

RESPONSE TO RAI - 2.4 - EDGB - 1:

The following components associated with the EDG are in-scope for license renewal:

- EDG combustion air intake components (function R43-01).
- EDG exhaust air components (function R43-01).
- EDB building ventilation components (functions X41-02, X41-03, X41-04, and X41-05).

LRA Table 2.3.4-17 lists the ventilation components. The following combustion components appear on LRA Table 2.3.4-12:

- Filter Housing
- Carbon Steel Piping
- Galvanized Steel Piping

RAI - 2.4 - FS - 1:

Table 2.4.4-1 of the LRA indicates that the fuel storage racks are made of aluminum. However, Section 9.1.2.2.2 of the Unit 2 FSAR describes the spent fuel racks as being comprised of storage tubes made from joining 304 stainless steel outer tubes with a Boral poison inner core. Clarify if the fuel storage racks are made of aluminum or 304 stainless steel and Boral. Modify the applicable portions of Table 2.4.4-1 of the LRA to identify the components and materials used in the fuel storage system, consistent with the FSAR, and include it in your response.

RESPONSE TO RAI - 2.4 - FS - 1:

The new fuel storage racks are made of aluminum. The spent fuel storage racks are made of stainless steel and include Boral as a neutron absorber material. These racks were identified as Structural Steel in Table 2.4.4-1.

The following table corresponds to the relevant line items in Table 2.4.4-1 with the new fuel storage racks and spent fuel storage racks identified explicitly. Boral has been added as a component material and reactivity control has been added as a component function for the spent fuel storage racks. Note that there are no aging effects requiring management for the Boral.

Structural Component	Component Functions	Material
Storage Racks* - New Fuel	Structural Support	Aluminum
Storage Racks - Spent Fuel	Shelter/Protection; Fission Product Barrier; Structural Support Reactivity Control	Stainless Steel Boral*
Structural Steel	Shelter/Protection; Fission Product Barrier; Structural Support	Stainless Steel

* No aging effects requiring management

RAI - 2.4 - FS - 2:

Boral, used in the construction of the spent fuel storage rack's inner cores, is credited in controlling the reactivity of the stored fuel. This component intended function, though described in Section 9.1 of the FSAR, is not included in the list of component functions on Table 2.4.4-1. Verify that the spent fuel storage racks are credited in maintaining the stored spent fuel subcritical under all normal and abnormal storage configurations and include this component function with those for the spent fuel storage racks, as appropriate.

RESPONSE TO RAI - 2.4 - FS - 2:

The spent fuel storage racks are credited in maintaining the stored spent fuel subcritical under all normal and abnormal storage configurations. The Boral plates are used as a neutron absorber. Therefore, reactivity control is an intended function of the Boral plates. See also the response to RAI-2.4-FS-1.

RAI - 2.4 - FS - 3:

Intended function T24-01 states that the fuel storage facility provides for underwater storage and handling of spent fuel. It includes the spent fuel pool, concrete vault and stainless steel liner, fuel pool gates, fuel racks, and "other equipment necessary to properly store irradiated fuel and components." The staff cannot determine, from the description in the LRA of intended function T24-01, the list of component groups requiring an AMR on Table 2.4.4-1, or from the description of the systems in FSAR Section 10.2 and 10.3 for Unit 1, and 9.1 for Unit 2, what "other equipment" should be subject to an AMR. Clarify what other fuel storage components fall into this commodity group.

RESPONSE TO RAI - 2.4 - FS - 3:

The term "other equipment" is meant to include items such as miscellaneous embedded steel, anchors and bolts, and a leak chase system. These items also contribute to the maintenance of the integrity of the spent fuel pool to meet its intended function.

RAI - 2.4 - IS - 1:

Describe the difference between "Miscellaneous steel," and "Structural steel" in Table 2.4.9-1:Both groups have similar component functions (except for "flow direction," which is undefined) and are made from identical material. It is unclear what the differences are between the two structural component categories, and what actual Intake Structure components belong in each category.

RESPONSE TO RAI - 2.4 - IS - 1:

Structural steel is defined as substructure or superstructure steel that is part of the primary structural support function of a building or structure such as structural columns, support girders, beams, connections, roofing joists, purlins, wind bracing, and metal decking on the bottom of reinforced concrete floor slabs.

Miscellaneous steel is defined as steel which does not perform a primary structural integrity function for a building but does provide secondary structural support for equipment or components within the building, or it may provide protection around openings in floors or walls. Miscellaneous steel would typically include items such as stairs, ladders, handrails, grating, grating supports, embedded channels, angles, frames, plates and embedded inserts such as Globestrut™ or Unistrut™.

At the intake structure, structural steel includes steel barriers utilized as water spray barriers and internally generated missile barriers. Miscellaneous steel includes embedded plates and/or frames and anchors used to support the missile or spray shields.

The term "flow direction" is a label described in LRA Table 2.1-2 as "Provide spray shield or curbs for directing flow."

RAI - 2.4 - IS - 2

FSAR Section 12.2.7 states that the following equipment is included as part of the Intake Structure: coarse trash racks, traveling screen, and stop logs. Identify whether these components are within the scope of license renewal and what component commodity group they are included within on Table 2.4.9-1, or justify their exclusion from the scope of license renewal.

RESPONSE TO RAI - 2.4 - IS - 2

Coarse trash racks, trash rakes, traveling water screens and stop logs are within the scope of license renewal. Trash rakes and water screens are included in the W33 system and stop logs are included in the W35 system as denoted in LRA Table 2.2-1. Traveling water screens and trash racks are described in LRA Section 2.3.4.16 and Table 2.3.4-16. Stop logs and steel supports for the trash racks are included in LRA Section 2.4.9 and Table 2.4.9-1. Stop logs are included in the structural steel components and trash rack supports are included in the miscellaneous steel components. Aging management of steel components of the trash rakes, trash racks, water screens and stop logs is addressed in LRA Appendix C.2.6.3.

RAI - 2.4 - IS - 3:

Components are provided that protect the Intake Structure from a site related event, specifically, a transportation accident. Steel sheet pile cells with wood fenders described in the FSAR are designed to protect the Intake structure from a direct hit by river traffic or river debris. Table 2.4.9-1 of the LRA does not include any wooden components and it is not clear from the description of the Miscellaneous and Structural Steel commodities' intended functions on the table that the steel sheet piles are included in either of those commodity groups. Identify where in Section 2.4.9 these components are included within the scope of license renewal or justify their exclusion.

RESPONSE TO RAI - 2.4 - IS - 3:

The steel sheet piles are not considered to be in the scope of license renewal. The sheet piles were installed to facilitate dewatering of the intake structure excavation and subsequent construction of the intake structure. As described in Section 12.2.7 of the Unit 1 FSAR, the sheet piles provide protection to the intake structure from a direct hit by river traffic or debris flowing across the river channel. The FSAR states that the sheet piles could fail and not prevent a safety function. Wood fender piles provide protection to the sheet pile cells by dissipating dynamic effects of moving loads. Impact of debris or river traffic on the sheet piles, wood fender piles, or on the front of the intake structure would not prevent the structure from providing water to the plant service water and RHR service water systems.

RAI - 2.4 - IS - 4:

Section 12.2.7 of the Unit 1 FSAR describes a creosote wall that was constructed near the Intake Structure to prevent damage from occurring to the Intake Structure from undercutting by the river. It is not clear whether any of the components listed on Table 2.4.9-1 include the aforementioned creosote wall. State whether this wall is within the scope of license renewal and subject to an AMR, or justify its omission.

RESPONSE TO RAI - 2.4 - IS - 4:

The creosote wall is not considered to be within the scope of license renewal. The referenced FSAR section does describe the creosote wall as rerouting river water flow and preventing undercutting of the intake structure. However, based on flow characteristics of the river, and the river channel being located near the north bank and the intake structure being located on the south bank of the river, undercutting of the intake structure is not a credible event requiring protection for the Plant Hatch intake structure. Therefore, the creosote wall was not considered to be in the scope of license renewal.

RAI - 2.4 - PC – 1:

Unidentified component D001 located at G3 on DWG HL-26016 was identified on drawings associated with intended function T23-01 - Torus/Drywell, as being within the scope of license renewal, but the staff could not determine what type of component it was from the legend provided by the applicant. Indicate where this component is evaluated for an AMR

RESPONSE TO RAI - 2.4 - PC – 1:

This component is flex hose made of stainless steel and was screened as piping in Table 2.4.3-1. The aging management of this component can be found in Section C.2.2.9.2.

RAI - 2.4 - PC - 2:

The following components were not identified as being within the scope of license renewal for the primary containment in drawings referenced for intended function T23-01, but perform a pressure boundary function for the primary containment. Indicate where these components are evaluated for an AMR in the LRA or justify their exclusion from the scope of license renewal:

- Tubing segment penetrating the primary containment at B2 on DWG HL-26057.
- Tubing segment penetrating the primary containment at A2 on DWG HL-26057.
- Personnel lock, located at D2 on DWG HL-26057.
- Equipment access hatches (2) and the Control Rod Drive removable hatch described in the Unit 2 FSAR Section 3.8.2.1.3.
- Traversing in-core probe guide tube penetration described in Unit 2 FSAR Section 3.8.2.1

RESPONSE TO RAI - 2.4 - PC - 2:

Tubing segments are routinely identified in the Hatch LRA as piping. Tubing segments penetrating the primary containment at A2 and B2 on HL-26057 are included in LRA Table 3.3.1-3 as piping which links to Section C.2.2.9.2 for the AMR and demonstration.

Personnel locks and equipment hatches penetrating containment are addressed in T23 penetrations (LRA Section 2.4.3, Table 2.4.3-1).

The TIP is included in function C51-03, and is not in scope (see LRA Table 2.2-1). The TIP guide tube supports primary containment function T23-01, and is addressed in Table 2.4.3-1. The penetration for the TIP guide tube is covered under "Drywell Penetrations", function T52-01 (see Section 2.4.6 of the LRA).

RAI - 2.4 - PS - 1:

The piping specialties section identified the non-safety related pipe supports that are included within the scope of license renewal as those having intended functions X43-04, W33-03 and N61-03. However, some non-safety related piping and pipe supports should also be credited for assuring the functionality of boundary valves that separate portions of systems that are required to remain functional during and after a design basis event from those that are not required to remain functional. This intended function is not included in the LRA under Piping Specialties. Identify where in the application these components are identified and evaluated or provide a justification for their omission.

RESPONSE TO RAI - 2.4 - PS - 1:

Pipe supports for nonsafety-related piping that ensure the functionality of boundary valves that separate portions of systems required to remain functional during and after a design basis event are included in function L35-01. These supports comprise the group referenced in the second sentence of the L35-01 intended function in section 2.4.1 that states, "[Other] Pipe supports maintain the integrity of nonsafety functions during accident and seismic events." This sentence can be clarified to state that these nonsafety pipe supports, which are located in Seismic Category I structures, are considered for Seismic II/I criteria to prevent failure of the nonsafety piping system from adversely impacting the ability of a safety system to perform its function. Thus, all pipe supports located in a Seismic Category I structure, regardless if the supports are for safety related or nonsafety-related systems, are conservatively included in function L35-01 and are in-scope for license renewal. The only Seismic Category II supports not located in a Seismic Category I structure that are included in-scope for license renewal are for functions X43-04, W33-03, and N61-03.

RAI - 2.4 - PS - 2:

Section 2.4 of the LRA states that intended functions define the boundaries by which various component groups are analyzed for aging management purposes. Intended function L35-01 states that pipe supports for the reactor coolant system and subsystems are provided to ensure pressure retaining capability due to weight, seismic, and fluid dynamic loads. What "subsystems" are included within this commodity group?

RESPONSE TO RAI - 2.4 - PS - 2:

Intended function L35-01 includes piping supports that are qualified to Seismic Category I or Seismic Category II/I requirements regardless of system designation.

RAI - 2.4 - PS - 3:

It is not clear from the description of the intended function for piping specialties provided in Section 2.4.1 of the LRA, or from the drawings provided to support the license renewal application (which do not identify intended function L35-01/02), that the pipe supports for all piping within the scope of license renewal, including piping segments and anchors that are credited in providing support to safety-related boundary valves, have been identified as being within the scope of license renewal. The staff is concerned that seismic II/I piping and piping segments and anchors that provide support to safety-related boundary valves have not been identified as being within the scope of license renewal. Intended function L35-01 specifically identifies the pipe supports for the reactor coolant system and "subsystems," and "all safety-related plant pipe supports, pipe restraints, and tubing supports..." However, no definition of "subsystems" is given and no way of determining what components are included under "all safety-related plant pipe supports, pipe restraints, and tubing supports" can be determined. Intended function L35-02 captures those supports on piping associated with intended functions X43-04, W33-03 and N61-03, but states that no other seismic category II supports are within scope (including those on components identified as seismic II/I).

RESPONSE TO RAI - 2.4 - PS - 3:

As stated in the response to RAI-2.4-PS-1, pipe supports located in Seismic Category I structures for nonsafety-related piping that ensure the functionality of boundary valves that separate portions of systems required to remain functional during and after a design basis event are included in function L35-01. These supports were considered for Seismic II/I criteria. SNC has included the pipe supports that were considered for Seismic II/I criteria and that are located in Seismic Category I structures, regardless of whether the supports are for safety related or nonsafety-related systems, in-scope for license renewal.

RAI - 2.4 - RB - 1:

The staff believes that, because the reactor building structure is within the scope of license renewal, the structural components identified below are also within the scope of license renewal. Indicate whether the following components are within the scope of license renewal. For those components within scope, identify where in the LRA the components are addressed. For those not within the scope of license renewal, provide a justification for their omission.

- Refueling Water Seal Assembly (Unit 1 FSAR 3.8.3.1.D.5)
- Foam glass inserts between buildings (Unit 1 FSAR 12.2.15.2.2)
- Main steam line enclosure (Unit 1 FSAR 12.2.15.2.11)
- Reactor pedestal (Unit 1 FSAR 12.2.15.2.12 and 3.8.3.1.A)
- Reactor coolant pump supports (Unit 1 FSAR 3.8.3.1.D)

RESPONSE TO RAI - 2.4 - RB - 1:

The refueling water seal assembly, made of steel, is included in Table 2.4.3-1 (Function T23-01) generically under "Structural Steel".

The original purpose of the foam glass was to maintain a gap between structures so that there can be free movement during an earthquake. After construction of the plant, the foam glass was removed in all areas except below grade (El. 130'-0") between the reactor building and its adjacent structures (control, turbine and radwaste buildings). The foam glass served only as formwork for maintaining the gap, has no intended structural function, and hence was not included in license renewal scope.

The main steam line enclosure, made of concrete, is included in Table 2.4.3-1 under the generic heading of "Concrete".

The reactor pedestal is made of unreinforced concrete encased in a structural steel frame for Unit 2, and of reinforced concrete for Unit 1, and is evaluated in LRA Section 2.4.3 (See Table 2.4.3-1)

The lug support attachments at the reactor recirculation pumps are evaluated as part of the pump casing in LRA Table 2.3.2-1. The supports and lug attachments to the structural steel are evaluated in LRA Table 2.4.1-1, as part of hangers and supports for ASME Class 1 piping.

RAI - 2.4 - RB - 2:

It is not clear from the description of the intended function of the reactor building and from the list of components subject to an AMR in Table 2.4.5-1, what portions of the reactor building are included in Section 2.4.5 of the LRA. Specifically, portions of the reactor building internals that constitute the fuel storage system are described in Section 2.4.4 of the LRA. However, no reference to that section is made in any part of Section 2.4.5, even though the portions of the reactor building included in the fuel storage system clearly meet the applicant's definition of intended function T29-01, "Containment and Support." Provide a statement clarifying which portions of the reactor building structure are evaluated under intended function T29-01 in Section 2.4.5.

RESPONSE TO RAI - 2.4 - RB - 2:

In general, the application has included the whole reactor building, along with all structural components within its boundary, in scope and hence evaluated under function T29-01. However, several items have been addressed in greater detail in separate sections. These separate sections in the reactor building include functions associated with primary containment (T23-01), fuel storage (T24-01 and T24-02), penetrations (T52-01 and T54-01), cranes (T31-02), tornado vents (T38-01), etc. These detailed sections were considered separately for purposes of evaluating the components for specialized loadings, environmental parameters, and/or aging effects.

RAI - 2.4 - RB - 3:

FSAR Section 12.2.1 describes the construction of the reactor building airlock, which includes a structural separation joint sealed with "three bulb water stop." Table 2.4.5-1 includes "Panel Joint Seals and Sealants" but does not include a category which includes the airlock water stops. These waterstops are part of the pressure boundary for the secondary containment, and as such, perform an intended function, which should include them within the scope of license renewal. Include the airlock water stops within the scope of license renewal and subject to an AMR or provide a justification for their omission.

RESPONSE TO RAI - 2.4 - RB - 3:

The three-bulb rubber water stop in the joint between the railroad airlock and the reactor building was not identified in the LRA. The three-bulb water stop is part of the pressure boundary for the secondary containment, does contribute to the intended function, and should have been included in the LRA. The water stop will be subject to an AMR and the results provided in a subsequent submittal.

RAI - 2.4 - TB - 1:

Section 2.4.8 of the LRA states that the turbine building is designed and constructed to ensure it will not damage any Seismic Category I structure or equipment located inside or adjacent to it. In addition, cables that are important to safety are located in a Seismic Category I chase area within the Turbine Building. Drawing EL-10173 indicates that the entire Turbine Building for Units 1 and 2 is within the scope of license renewal. However, Section 2.4.8 of the LRA indicates only certain portions of the structure are proposed to be included within the scope of license renewal. 10 CFR Part 54 states that non-safety related components (and structures) whose failure could prevent the satisfactory accomplishment of a safety-related function are to be included within the scope of license renewal. This includes structures designed Seismic II/I. Clarify whether the entire Turbine Building structure for Units 1 and 2 is within the scope of license renewal, or provide a justification for omitting portions of the Turbine building from the scope of license renewal (specifically address how the omitted portion(s) is not "designed and constructed to ensure it will not damage any Seismic Category I structure or equipment located inside or adjacent to it").

RESPONSE TO RAI - 2.4 - TB - 1:

Only certain portions of the Unit 1 and 2 turbine buildings meet any of the scoping criteria of the Rule. The Plant Hatch turbine buildings are Category II structures, as acknowledged by the NRC in the original license SERs for each unit. Therefore, by definition, failure of either structure will neither result in the release of significant radioactivity nor prevent reactor shutdown. The Unit 1 and 2 turbine buildings, as structures, are only in license renewal scope to the extent that they are nonsafety-related structures that could prevent a safety-related function. That extent is discussed in the following paragraphs.

A portion of each turbine building was designed to Seismic Category I criteria. That portion is described in Unit 1 FSAR Section N.3.2.4, and Unit 2 FSAR Section 15A.3.2.D as the cable chase area below elevation 147 ft and has been included in license renewal scope.

Endangerment of adjacent Category I structures was also addressed in the FSARs. The discussion in Unit 1 FSAR Section 12.2.15.2.2 concludes that the turbine buildings are designed and constructed to ensure that they will not damage Category I structures or equipment located inside or adjacent to them in the event of a DBE. Thus, those portions of each turbine building adjacent to Category I structures or having Category I equipment inside them are conservatively determined to be in scope. This conservative assessment includes the south end of the Unit 1 turbine building up to and including the bay extending north of the Unit 1 reactor building, and the north end of the Unit 2 turbine building up to and including the bay extending south of the Unit 2 reactor building in scope for license renewal. The structural elements included in this scope are the base mat, columns, exterior walls, and roof, as well as the cable chase areas described above.

The associated evaluation boundary drawing (EL-10173) depicting the in scope structures shows the entire turbine building in scope for both units. This drawing reflects the practical consideration that the program credited to manage aging effects for the

turbine building structural components includes the entire building in its scope. Thus, in practice, any distinction as to the portion of the turbine buildings that are in scope is rendered moot.