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RBG-47836

March 14, 2018

Attn: Document Control Desk
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852-2738

SUBJECT: Response to License Renewal Application NRC Request for Additional Information (RAI) Set 11
River Bend Station, Unit 1
Docket No. 50-458
License No. NPF-47

References: 1) Entergy Letter: License Renewal Application (RBG-47735 dated May 25, 2017)

2) NRC email: River Bend Station, Unit 1, Request for Additional Information, Set 11 – RBS License Renewal Application – dated February 12, 2018 (ADAMS Accession No. ML18043A351)

Dear Sir or Madam:

In Reference 1, Entergy Operations, Inc (Entergy) submitted an application for renewal of the operating license for River Bend Station (RBS) for an additional 20 years beyond the current expiration date. In an email dated February 12, 2018, (Reference 2) the NRC staff made a Request for Additional Information (RAI) needed to complete the license renewal application review. Enclosure 1 provides the responses to the Set 11 RAIs.

If you require additional information, please contact Mr. Tim Schenk at (225)-381-4177 or tschenk@entergy.com.

In accordance with 10 CFR 50.91(b)(1), Entergy is notifying the State of Louisiana and the State of Texas by transmitting a copy of this letter to the designated State Official.

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 14, 2018.

Sincerely,

WFM/RMC/alc

Enclosure 1: Responses to RAIs Set 11 – River Bend Station

cc: (with Enclosure)

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cc: (w/o Enclosure)

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RBF1-18-0041

RBG-47836

Enclosure 1

Responses to Request for Additional Information

Set 11

REQUEST FOR ADDITIONAL INFORMATION
LICENSE RENEWAL APPLICATION
RIVER BEND STATION, UNIT 1 – SET 11
DOCKET NO.: 50-458
CAC NO.: MF9757
Office of Nuclear Reactor Regulation
Division of Materials and License Renewal

Question

RAI 2.3.2.6-1 (Standby Gas Treatment System)

Background

The staff performed its scoping and screening review of LRA Section 2.3.2.6 "Standby Gas Treatment." Many of the components of the Standby Gas Treatment System (SGTS) are typically within the scope of components that require an AMR because they provide a pressure-retaining function with respect to the Secondary Containment Boundary. After review of LRA Table 2.3.3-12 and LRA Drawing LRA-PID-27-15A, the staff requests additional information about system components that form part of the Secondary Containment Boundary.

Issue

Flow Switches FS 2A (Coordinate. L-16) and FS 2B (Coordinate E-16) – The sensing lines to these instruments could be part of the respective SGT filter train's pressure boundary but are not highlighted on LRA Drawing LRA-PID-27-15A.

Request

The staff requests clarification of this pressure boundary arrangement. More specifically, is there instrument tubing associated with each of these flow switches that is subject to AMR?

Response

Although the flow switches are inactive, plastic instrumentation tubing connected to the instruments is functioning as a pressure boundary for the system. LRA Section 3.2.2.1.6 and Table 3.3.2-6 are revised to add plastic tubing as subject to aging management review.

This instrument tubing is low-density polyethylene (LDPE). Internal surfaces do not experience aging effects requiring management in an air environment. Wear is not an aging effect in an air--indoor environment. This material is opaque, so internal surfaces are not exposed to light. External surfaces are conservatively considered to have the potential for a change in material properties due to exposure to fluorescent lighting. The External Surfaces Monitoring Program manages this aging effect.

The changes to LRA Section 3.2.2.1.6 and Table 3.3.2-6 follow with additions underlined.

3.2.2.1.6 Standby Gas Treatment System

Materials

Standby gas treatment system components are constructed of the following materials.

- Aluminum
- Carbon steel
- Fiberglass
- Low-density polyethylene (LDPE)
- Stainless steel

Table 3.2.2-6: Standby Gas Treatment System

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Item	Table 1 Item	Notes
Tubing	Pressure boundary	LDPE	Air – indoor (ext)	Change in material properties	External Surfaces Monitoring	--	--	F
Tubing	Pressure boundary	LDPE	Air – indoor (int)	None	None	--	--	F

Question

RAI 2.3.2.6-2 (Standby Gas Treatment System)

Background

The staff performed its scoping and screening review of LRA Section 2.3.2.6 "Standby Gas Treatment." Many of the components of the Standby Gas Treatment System (SGTS) are typically within the scope of components that require an AMR because they provide a pressure-retaining function with respect to the Secondary Containment Boundary. After review of LRA Table 2.3.3-12 and LRA Drawing LRA-PID-27-15A, the staff requests additional information about system components that form part of the Secondary Containment Boundary.

Issue

LRA drawing LRA-PID-27-15A does not display a "Component Type" identified as "Flex Connection" as identified in LRA Table 2.3.2-6 "SGTS Components Subject to Aging Management Review" and LRA Table 3.3.2-6 "SGTS Summary of Aging Management Evaluation."

Request

To accurately identify the internal Environment for the "Flex Connections", the staff requests that the Applicant specifically identify where the "Flexible Connections" to be subjected to AMR, are located.

Response

Flexible connections are installed between fans and ducts to prevent damage from excessive relative movement between the fans and the connected ductwork. Flexible connections are not shown on LRA-PID-27-15A but were included in the aging management review of the SGTS. The flexible connections are fiberglass and are exposed to an internal environment of indoor air.

Question

RAI 2.3.2.7-1 (Containment Penetrations)

Background

The staff performed its scoping and screening review of LRA Section 2.3.2.7 "Containment Penetrations." Many of the components associated with Containment Penetrations (CP) are typically within the scope of components that require an AMR because they provide an intended pressure-retaining boundary function for the associated system. After review of LRA Section 2.3.2.7, USAR Section 9.1.4, LRA Table 2.3.2-7 and the LRA drawings identified in LRA Section 2.3.2.7, the staff requests additional information about the blind flange identified with Note 3 of LRA-PID-34-04A (Coordinate L-9):

Issue

This blind flange is described as "Safety Related" under the subheading entitled "Fuel Transfer Equipment" of LRA Section 2.3.3.18 "Auxiliary Systems in Scope for 10 CFR 54.4(a)(2)." The PID symbol displayed on LRA-PID-34-04A for the blind flange is labeled a "Spectacle Flange" as displayed on PID-00-02D (Coordinate A-17). Entergy Engineering Report No. RBS-ME-15-00007, Rev. 1 addresses neither the Component Type of "Blind Flange" nor "Spectacle Flange." LRA Table 2.3.2-7 "Containment Penetrations Components Subject to Aging Management Review" lists neither a "Component Type" entitled "Blind Flange" nor "Spectacle Flange."

This "Blind/Spectacle Flange" serves as a Primary Containment isolation barrier during normal plant power operations.

Request

Please identify where the LRA addresses the AMR for the "Blind/Spectacle Flange" associated with the Fuel Handling System or, if not included, provide a discussion of the component and address how aging is

managed or provide a justification for not including this component in the aging management program.

Response
The "Blind/Spectacle Flange" associated with the fuel handling system is included in the component type "Piping" in LRA Table 2.3.2-7. Aging management review results are provided in the LRA Table 3.2.2-7 line items for stainless steel piping with an internal environment of treated water and an external environment of air – indoor.

LRA Section 2.0 states, "The term "piping" in component lists includes pipe and pipe fittings (such as elbows, flued heads and reducers)." Although not specifically listed as an example, components such as this blind flange are reviewed as "Piping."

Question
RAI 2.3.3.13-1 (Miscellaneous HVAC)

Background
The staff performed its scoping and screening review of LRA Section 2.3.3.13 "Miscellaneous HVAC." Components of the Miscellaneous HVAC Systems (HVC) are typically within the scope of components that require an AMR because they provide a pressure-retaining function with respect to their respective HVAC system. After review of LRA Table 2.3.3-13 and review of the respective LRA Drawings associated with each of the five Miscellaneous HVAC systems, the staff requests additional information about system components that form part of a subsystem's pressure boundary.

Issue
LRA-PID-22-07A displays the four area heaters of each of the A, B & C Diesel Generator Rooms as components not subject to AMR. RBS USAR section 9.4.5.1 "Design Bases" reads in part "The ESF ventilation systems are designed in accordance with the following criteria: 1. The systems are designed to provide a reliable source of fresh air and an environment with controlled temperature to ensure the comfort and safety of personnel and the integrity of plant equipment. 2. The systems are designed to maintain space temperatures within the design limits as listed in Table 9.4-1. ..." RBS USAR section 9.4.5.2.2 "Diesel Generator Building Ventilation System" reads in part "Unit heaters are provided in each diesel generator room to maintain the minimum design temperature for the areas during conditions of low outside ambient temperature." The staff notes that these components (i.e. area heater' housings) appear to satisfy the scoping requirements of 10 CFR 54.4(a)(2). In addition, LRA Tables 2.3.3-13 and 3.3.2-13 contain a "Component Type" entitled "Heater housing."

Request
Please provide clarification as to whether the Diesel Generator Room area heater housings are subject to AMR, or provide the staff with justification why not.

Response
The area unit heaters in the diesel generator building are not safety-related: they are not required to operate during emergency conditions when the diesels are operating.

The function of the area heaters is considered to be a "readiness" function as discussed in NEI 95-10, Appendix F, Section 5.2.1.2, "Equipment Used to Establish Initial Conditions":

> For many plants, non-safety-related equipment, augmented with a suitable surveillance or monitoring program, is used to maintain safety-related equipment or plant conditions within limits consistent with event assumptions. As noted in the SOC [statements of consideration] for the license renewal rule, the Commission concluded that current activities for such systems,

> structures, and components, including licensee programs and the NRC regulatory process, are sufficient and that no additional evaluation is necessary for license renewal.

Diesel building temperature is monitored during operations rounds once per 12 hours in accordance with operations procedures, which meet the requirements of the Technical Requirements Manual.

Additionally, ambient temperatures at RBS are such that the diesel building inside temperature would satisfy the environmental design criteria specification without the area heaters. The environmental design criterion for the diesel generator building is temperature less than or equal to 40°F for no more than 70 months per 40 years. As stated in USAR Section 2.3.1.1

> The winter climate is pleasant, due to mild temperatures and only moderate precipitation. Daily minimum and maximum temperatures average about 42°F and 63°F, respectively, and freezing temperatures occur on an average of only 1 night in 4.

A survey of temperatures for the years 2008–2014 confirmed that outside temperatures stay above 40°F for a duration that is within the requirements of the design specification:

> 70 months is equivalent to 50,400 hours for 40 years (70 months × 30 days/month × 24 hours/day).
> This is equivalent to an average of 1,260 hours/year (50,400 hours/40 years).
> Outside temperature at RBS was ≤ 40°F for 3,900 hours over 7 years (2008–2014).
> This is equivalent to an average of 557 hours/year, well below the design specification values.

Therefore, the design specification for diesel generator building temperatures will continue to be met without the function of the area heaters.

The "Heater housing" component type in LRA Tables 2.3.3-13 and 3.3.2-13 is for the safety-related standby service water pump room unit heaters. While the diesel generators are kept warm in the standby configuration by jacket water and lube oil heating, the service water pumps have space heaters.

Question
RAI 2.3.3.15-1 (Fuel Pool Cooling and Cleanup System)

Background
The staff performed its scoping and screening review of LRA Section 2.3.3.15 "Fuel Pool Cooling and Cleanup System." Many of the components of the Fuel Pool Cooling and Cleanup System (SFC) are typically within the scope of components that require an AMR because they provide an intended pressure-retaining boundary function for the system. After review of LRA Table 2.3.3-15 and LRA drawings identified in LRA Section 2.3.3.15, the staff requests additional information about system Component Types that appear on LRA drawing LRA-PID-34-02A.

Issue
LRA Drawing LRA-PID-34-02A identifies a total of twelve (12) anti-siphoning devices in the Cask Pool, Lower Transfer Pool, Fuel Storage Pool and Dryer Storage Pool. Note #8 and #9 on this drawing describes these devices as "Indicates 1-1/2" (or 2-1/4") Diameter Hole Drilled in the Highest Portion of the Pipe." RBS USAR subsection 9.1.3.2.1 "Fuel Pool Cooling Subsystem" reads in part:

> ... The fuel pool cooling pumps take suction from one end of the fuel building fuel storage pool and discharge at the opposite end of the pool through diffusers to minimize water turbulence. Antisiphoning devices are provided at the suction pipe inlet and the discharge pipe outlet, located to ensure that, in case of a pipe break, the pool water is not siphoned below a point approximately 10 ft above the top of the fuel. ...

Based on the description above these devices are passive devices and aid in the prevention of spent fuel from being uncovered of water during all storage conditions. Furthermore, these devices (i.e. holes in Stainless Steel pipes) would not have a pressure retention boundary function consistent with the "Pressure Boundary" "Intended Function" of the "Component Type – Piping" listed in LRA Table 2.3.3-15. In addition, the aging effect (corrosion of the anti-siphoning hole to the extreme of closing the hole) requiring management would be different than that of other "Piping" subject to AMR. LRA Table 2.3.3-15 does not identify these "devices" as a "Component Type" subject to AMR. Entergy Engineering Report RBS-ME-15-00033, Rev. 0 neither identifies nor discusses the anti-siphoning devices.

Request
Please identify where the LRA addresses the AMR for these anti-siphoning devices or provide the staff with justification why this Component Type is not listed within LRA Table 2.3.3-15.

Response
The antisiphoning devices on LRA-PID-34-02A in Safety Class 3 segments of the system are subject to aging management review, as shown by the highlighting. Siphon breakers are included in the aging management review in LRA Table 2.3.3-15 with the component type "Piping." This is consistent with the LRA statement in Section 2.0, "The term "piping" in component lists includes pipe and pipe fittings (such as elbows, flued heads and reducers)."

Line items in LRA Table 3.3.2-15 for stainless steel piping and racks exposed to treated water identify loss of material due to pitting and crevice corrosion managed by the Water Chemistry Control – BWR Program. This is the corrosion that could cause blockage of a siphon breaker opening; therefore, the aging management program is appropriate for siphon breakers.

The LRA is revised to add rows for piping in treated water greater than 140°F (internal and external) with the component intended functions of pressure boundary and flow control.

The changes to LRA Table 2.3.3-15 and Table 3.3.2-15 follow with additions underlined.

Table 2.3.3-15
Fuel Pool Cooling and Cleanup System
Components Subject to Aging Management Review

Component Type	**Intended Function**
Piping	Pressure boundary Flow control

Table 3.3.2-15
Fuel Pool Cooling and Cleanup System
Summary of Aging Management Evaluation

Table 3.3.2-15: Fuel Pool Cooling and Cleanup System								
Component Type	**Intended Function**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Program**	**NUREG-1801 Item**	**Table 1 Item**	**Notes**
Piping	Pressure boundary Flow control	Stainless steel	Treated water > 140°F (ext)	Cracking	Water Chemistry Control – BWR	VIII.C.SP-88	3.4.1-11	C, 301
Piping	Pressure boundary Flow control	Stainless steel	Treated water > 140°F (ext)	Loss of material	Water Chemistry Control – BWR	VII.A4.AP-110	3.3.1-25	A, 301
Piping	Pressure boundary Flow control	Stainless steel	Treated water > 140°F (int)	Cracking	Water Chemistry Control – BWR	VIII.C.SP-88	3.4.1-11	C, 301
Piping	Pressure boundary Flow control	Stainless steel	Treated water > 140°F (int)	Loss of material	Water Chemistry Control – BWR	VII.A4.AP-110	3.3.1-25	A, 301

Question
RAI 2.3.3.15-2 (Fuel Pool Cooling and Cleanup System)

Background
The staff performed its scoping and screening review of LRA Section 2.3.3.15 "Fuel Pool Cooling and Cleanup System." Many of the components of the Fuel Pool Cooling and Cleanup System (SFC) are typically within the scope of components that require an AMR because they provide an intended pressure-retaining boundary function for the system. After review of LRA Table 2.3.3-15 and LRA drawings identified in LRA Section 2.3.3.15, the staff requests additional information about system Component Types that appear on LRA drawing LRA-PID-34-02A.

Issue
LRA Table 2.3.3-15 identifies the Component Type "Flex hose" as subject to AMR. LRA Drawing LRA-PID-34-02A displays two "Flex hoses" in the Fuel Storage Pool. These two components are not indicated (i.e. not highlighted in green) as being subject to AMR. There are no other "Flex hoses" displayed on the other LRA drawings identified in LRA Section 2.3.3.15. The staff notes that Section 3.1.3 of Entergy Engineering Report RBS-ME-15-00033, Revision 0 does address the "Component Type" entitled "Flex Hose."

Request
Please clarify whether the "Flex hoses" are within the scope of aging management review or not. If they are in scope, please provide the following information:

1. The internal and external environment the flex hoses are exposed to, and
2. The material the flex hoses are made of

Response
The fuel pool cooling and cleanup system has one flex hose that is subject to aging management review, although it is not shown on drawing LRA-PID-34-02A. This is a stainless steel instrumentation flex hose associated with PS-6A (LRA-PID-34-02A, location G-15), which senses discharge pressure for the P1A fuel pool cooling pump. This is the flex hose included in LRA Table 2.3.3-15 and Table 3.3.2-15. Its internal environment is treated water > 140°F and the external environment is indoor air, as indicated in Table 3.3.2-15.

The two flex hoses shown on LRA Drawing LRA-PID-34-02A are not subject to aging management review because they do not support a license renewal intended function of the fuel pool cooling and cleanup system.

Question
RAI 2.3.3.16-1 (Plant Drains)

Background
The staff performed its scoping and screening review of LRA Section 2.3.3.16 "Plant Drains." Many of the components of the Plant Drains System (DER/DFR/VTP) are typically within the scope of components that require an AMR because they provide an intended pressure-retaining boundary function for the system.
After review of:

- LRA Table 2.3.3-16;
- the nine (9) LRA drawings identified in LRA Section 2.3.3.16; and
- drawings LRA-PID-08-09A, LRA-PID-08-9B and LRA-PID-08-09D

the staff requests additional information about a system Component Type that appears on one of these drawings. The staff notes that drawing LRA-PID-08-9B showing the subject vent lines of this "Issue" is referenced as part of LRA Section 2.3.3.18, Auxiliary Systems in Scope for 10 CFR 54.4(a)(2), which Section 2.3.3.16 refers to for certain reviews.

Issue
LRA Drawing LRA-PID-08-9B identifies two vent pipes each from each Standby Diesel Generator EGS*EG1A(AR) [Coordinate M-2] and EGS*EG1B(BB) [Coordinate E-2]. The two vent pipes for each diesel generator are identified as not being subject to AMR. Respectively, the vent pipes are identified as VTP-004-4-4 and VTP-004-5-4 for EGS*EG1A(AR) and as VTP-004-6-4 and VTP-004-7-4 for EGS*EG1B(BB). LRA Section 2.3.3.16 reads in part:

> ... The equipment vent system (VTP) provides vents to atmosphere, outside the buildings, for tanks associated with generator hydrogen system or to vent the combustion fumes from the diesel generator crankcase and lube oil tank. ...

From the staff's review of System Design Criteria (SDC) 309 (DIV I & II), SDC 309/405 (DIV III) and LRA Section 2.3.3.16, it is not clear how the function of venting the crankcase for the Division I & II EDGs and the HPCS Diesel Generator will be maintained during the period of extended plant operations.

Request
Please identify where the LRA addresses these ventilation piping components in LRA Table 3.3.2-16 "Plant Drains Summary of Aging Management Evaluation" or provide the staff with justification why these piping components are not addressed within LRA Table 3.3.2-16.

Response
The diesel generator vent pipes are not addressed within LRA Table 3.3.2-16 because they do not have a license renewal intended function. The purpose of the vent pipe is to remove the gasses from the room for safety and personnel protection. A diesel engine located outdoors has no crankcase vent pipe. Upon loss of the vent pipe pressure boundary, the gasses would exhaust into the room, but the diesel would continue to perform its function. When the diesel is in operation, the room ventilation system is in service, venting the room. Therefore, the loss of pressure boundary of this pipe has no impact on the diesel or personnel, and it has no safety function.

The function of venting the crankcase is not necessary for the diesel to operate under emergency conditions. This is shown in USAR Section 8.3.1.1.4.1, which lists two sets of conditions under which the diesel will trip: one set for both normal and emergency conditions, and one set for normal conditions only. The trip for high crankcase pressure is only listed with the set for normal conditions and not as a required trip for emergency conditions. In fact, the non-emergency trips are bypassed on receipt of an emergency start signal. This is reflected in the classification of the vent piping, which is not Safety Class 1, 2, or 3. System design criteria (SDC) documents SDC 309, Section 4.1.3, and SDC 309/405, Section 4.2, also confirm that the high crankcase pressure trip is not required during emergency operations. Because venting the crankcase is not required for the diesel to perform its intended function, which is to operate during an emergency, the vent lines do not support an intended function of the system.

Question
RAI 2.3.3.16-3 (Plant Drains)

Background
The staff performed its scoping and screening review of LRA Section 2.3.3.16 "Plant Drains." Many of the components of the Plant Drains System (DER/DFR/VTP) are typically within the scope of components that require an AMR because they provide an intended pressure-retaining boundary function for the system. After review of LRA Table 2.3.3-16, the nine (9) LRA drawings identified in LRA Section 2.3.3.16, LRA-PID-08-09A and LRA-PID-08-09D, the staff requests additional information about system Component Types that appear on these drawings or are described in LRA Section 2.3.3.16.

Issue
LRA-PID-32-09P (Coordinates L-5 and C-15) identifies instrument tubing to four pressure indicators (i.e. PI-12A/B/D/E) as being subject to AMR. Neither LRA Table 2.3.3-16 nor LRA Table 3.3.2-16 lists "Tubing" as a Component Type. In addition, Entergy Engineering Report RBS-ME-15-00011, Revision 1 does not evaluate this component type.

Request
Please identify where the LRA addresses the AMR for this instrument tubing or provide the staff with justification why this Component Type is not listed within LRA Table 2.3.3-16 and LRA Table 3.3.2-16.

Response
LRA Table 2.3.3-16 and LRA Table 3.3.2-16 are revised to add component type "Tubing" for plant drains. The tubing is stainless steel exposed to environments of waste water (internal) and indoor air (external). The Internal Surfaces in Miscellaneous Piping and Ducting Components Program manages the aging effects in waste water; there are no aging effects to be managed for stainless steel in indoor air.

The changes to LRA Table 2.3.3-16 and LRA Table 3.3.2-16 follow with additions underlined.

Table 2.3.3-16
Plant Drains System
Components Subject to Aging Management Review

Component Type	Intended Function
Tubing	Pressure boundary

Table 3.3.2-16
Plant Drains
Summary of Aging Management Evaluation

Table 3.3.2-16: Plant Drains								
Component Type	**Intended Function**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Program**	**NUREG-1801 Item**	**Table 1 Item**	**Notes**
Tubing	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	VII.J.AP-123	3.3.1-120	A
Tubing	Pressure boundary	Stainless steel	Waste water (int)	Loss of material	Internal Surfaces in Miscellaneous Piping and Ducting Components	VII.E.5.AP-278	3.3.1-95	C

Question
RAI 2.3.3.17-1 (Fuel Oil)

Background
The staff performed its scoping and screening review of LRA Section 2.3.3.17 "Fuel Oil System." Many of the components of the Fuel Oil System (309/EGF) are typically within the scope of components that require an AMR because they provide an intended pressure-retaining boundary function for the system. After review of LRA Table 2.3.3-17, LRA drawing LRA-PID-08-09A and LRA Section 2.3.3.17, the staff requests additional information about system Component Types that appear on LRA drawing LRA-PID-08-09A.

Issue
LRA Drawing LRA-PID-08-09A identifies YARD Component Types "piping," "valve body," "strainer," "strainer housing," "tubing" and "fill connection" for EGS*EG1A (Coord. L-20), EGS*EG1B (Coordinate H-20) and E22-EGS001 (Coordinate E-20) as components not subject to AMR. Entergy Engineering Report RBS-ME-15-00028, Rev. 0 identifies only an "Air – Outdoor External Environment" for the Component Types of "bolting," "flame arrestor" and "piping."

Attribute 1 of USAR Section 9.5.4.2 "System Description" reads in part:

> ... Each fuel storage tank is filled from its own individual tank truck fill station, located above the Probable Maximum Flood (PMF) elevation, adjacent to the diesel generator building within the plant security fence. Each fill supply pipe is capped when not in use, and provided with a locked-closed isolation valve and a duplex strainer capable of filtering out particles 75 microns and larger. ...

USAR Section 9.5.4.3 "Safety Evaluation" reads in part:

> ... Each diesel generator fuel oil storage tank is sized to store sufficient diesel fuel oil for a minimum of 7 days of continuous operation at its rated capacity. Fuel oil may be delivered to the site within 24 hr from terminals in Baton Rouge, Louisiana. Local Baton Rouge and vicinity sources of fuel oil supply are: Exxon Corp. in Baton Rouge, APEX Co. and Placid Oil Co. in Port Allen, and LaJet Oil Co., in St. James, Louisiana. Sufficient alternate land routes to the River Bend Station site are available in order to maintain fuel oil deliveries even under adverse environmental conditions. ...

Criteria 8 of USAR Section 9.5.4.3 "Design Bases" reads in part:

> The diesel generator fuel oil storage and transfer system is located in and adjacent to the Seismic Category I diesel generator building, which is protected from externally generated missiles. Storage tank fill connections, filters, and vents are located adjacent to each diesel generator room outside the building. Each fill and vent location is located in a concrete enclosure for tornado missile protection. ...

From the above USAR excerpts it appears that the above identified YARD Component Types satisfy the scoping requirements of 10 CFR 54.4(a)(2).

Request
1. Please identify where the LRA addresses the AMR for the YARD "Component Types" identified above or provide the staff with justification why the subject "Component Types" are not subject to AMR.

Response
The standby diesel generator system design criteria state the following.

> *The Fuel Oil Storage and Transfer System consists of three buried diesel fuel oil storage tanks, one for each diesel engine. Each diesel generator fuel oil storage tank shall store sufficient fuel*

oil for continuous operation at its rated capacity for 7 days.

Because the standby diesel generators are capable of performing their intended function for 7 days without refilling the storage tanks, the fill connections, filters, and vents which are located adjacent to the diesel generator room, outside the building, are nonsafety-related components and are not required to perform a function to support a safety function.

The outdoor diesel generator fuel oil storage tank fill connections, filters, and vents are separated from the indoor components by the diesel building wall. Thus, they are not able to physically interact (described in LRA Section 2.1.1.2.2) with safety-related components to prevent satisfactory accomplishment of a safety function and do not have an intended function for 10 CFR 54.4(a)(2).

Consequently, the outdoor diesel generator fuel oil storage tank fill connections, filters, and vents do not perform an intended function in accordance with 10 CFR 54.4(a)(2).

Question
RAI 2.3.3.17-2 (Fuel Oil)

Background
The staff performed its scoping and screening review of LRA Section 2.3.3.17 "Fuel Oil System." Many of the components of the Fuel Oil System (309/EGF) are typically within the scope of components that require an AMR because they provide an intended pressure-retaining boundary function for the system. After review of LRA Table 2.3.3-17, LRA drawing LRA-PID-08-09A AND LRA Section 2.3.3.17, the staff requests additional information about system Component Types that appear on LRA drawing LRA-PID-08-09A.

Issue
LRA Drawing LRA-PID-08-09A identifies the vent "Piping' and "Flame Arrester" associated with "Fuel Oil Waste Oil" Tanks (i.e., TK3A & TK3B) for EGS*EG1A (Tank Coordinate K-6) and EGS*EG1B (Tank Coordinate F-6) as components not subject to AMR. The remaining "Component Types" associated with these "Tanks" have been identified in LRA Table 2.3.3-18-2 "Fuel Transfer Equipment System, Nonsafety-Related Components Affecting Safety-Related Systems" as being subject to AMR.

Flame arresters are passive mechanical devices installed on oil storage tanks vents that function: (1) to allow the passage of vapor under normal operating conditions, and (2) to stop and extinguish any flame from propagating through the flammable vapor/air mixture under emergency conditions.

The staff notes that stopping the flame protects the storage tank, or the equipment located in the piping system, from the catastrophic damage that may result from an uncontrolled ignition.

Given that these "Fuel Oil Waste Tanks" are located in the vicinity of Emergency Diesel Generators EGS*EG1A and EGS*EG1B, it appears that the vent "Piping' and "Flame Arrestor" associated with "Fuel Oil Waste Oil" Tanks (i.e. TK3A & TK3B) are non-safety components whose failure could result in failure of nearby safety-related equipment per 10 CFR 54.4(a)(2).

Request
Please identify where the LRA addresses the AMR for the vent "Piping' and "Flame Arrester" associated with "Fuel Oil Waste Oil" Tanks (i.e. TK3A & TK3B) or provide the staff with justification as to why these components are not subject to AMR.

Response
Components highlighted in yellow on LRA Drawing LRA-PID-08-09A are in System 309, diesel generator, and

are in the scope of license renewal because they are nonsafety-related components affecting safety-related components. As shown in the table on LRA page 2.3-184, these components are addressed in LRA Table 2.3.3-18-12 and Table 3.3.2-18-12. The vent piping and flame arrestors associated with the fuel oil waste tanks should be highlighted in yellow and are added to these tables as shown below.

The changes to LRA Table 2.3.3-18-12, Section 3.3.2.1.18, and Table 3.3.2-18-12 follow with additions underlined.

Table 2.3.3-18-12
Standby Diesel Generator System
Nonsafety-Related Components Affecting Safety-Related Systems
Components Subject to Aging Management Review

Component Type	Intended Function
Bolting	Pressure boundary
Flame arrestor	Pressure boundary
Piping	Pressure boundary
Sight glass	Pressure boundary
Tank	Pressure boundary
Trap	Pressure boundary
Tubing	Pressure boundary
Valve body	Pressure boundary

3.3.2.1.18 Auxiliary Systems in Scope for 10 CFR 54.4(a)(2) Environments

Nonsafety-related components affecting safety-related systems are exposed to the following environments.

- Air – indoor
- Air – outdoor
- Condensation

Table 3.3.2-18-12
Standby Diesel Generator System
Nonsafety-Related Components Affecting Safety-Related Systems
Summary of Aging Management Evaluation

Table 3.3.2-18-12: Standby Diesel Generator System, Nonsafety-Related Components Affecting Safety-Related Systems

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Item	Table 1 Item	Notes
Flame arrestor	Pressure boundary	Carbon steel	Air – outdoor (ext)	Loss of material	External Surfaces Monitoring	VII.I.A-78	3.3.1-78	A
Flame arrestor	Pressure boundary	Carbon steel	Air – outdoor (int)	Loss of material	External Surfaces Monitoring	--	--	G, 307
Piping	Pressure boundary	Carbon steel	Air – outdoor (ext)	Loss of material	External Surfaces Monitoring	VII.I.A-78	3.3.1-78	A
Piping	Pressure boundary	Carbon steel	Air – outdoor (int)	Loss of material	External Surfaces Monitoring	--	--	G, 307

Question
RAI 2.3.3.17-3 (Fuel Oil)

Background
The staff performed its scoping and screening review of LRA Section 2.3.3.17 "Fuel Oil System." Many of the components of the Fuel Oil System (309/EGF) are typically within the scope of components that require an AMR because they provide an intended pressure-retaining boundary function for the system. After review of LRA Table 2.3.3-17, LRA drawing LRA-PID-08-09A AND LRA Section 2.3.3.17, the staff requests additional information about system Component Types that appear on LRA drawing LRA-PID-08-09A.

Issue
The 2nd to last paragraph of USAR Section 9.5.4.3 "Safety Evaluation" reads in its entirety:

> Water levels in the fuel oil storage tanks are checked periodically. Water-finding paste may be introduced through the sounding tube as a visual method of measuring the water level. In addition, the diesel fuel oil is sampled periodically as described in Section 9.5.4.4. Should the water level be excessive, water is removed through a drain line located in the bottom of the tank.

USAR Section 9.5.4.4 "Inspection and Testing Requirements" reads in part:

> ... The water level in the diesel generator fuel oil storage and day tank is checked monthly and after each operation of the diesel when the period of operation is 1 hr or longer, and excessive accumulated water is removed immediately.

The staff notes that LRA Drawing LRA-PID-08-09A identifies drain line piping/isolation valves off the bottoms of all three "Standby Diesel Generator Fuel Oil Storage Tanks" (i.e. TK1A/B/C) and off the bottoms of all three "Standby Diesel Generator Fuel Oil Day Tanks" (i.e. TK2A/B/C) as being subject to AMR. However, the staff also notes that neither LRA Table 3.3.2-17 "Fuel Oil System" nor Section 3.1 of Entergy Report RBS-MD-15-00028, Revision 0 "Aging Management Review of the Fuel Oil System" identify the "Aging Effects" associated with "Waste Water" as an internal Environment.

Request
Please identify where the LRA addresses the "Aging Effects" associated with "Waste Water" as an internal Environment for Tanks TK1A/B/C and TK2A/B/C or provide the staff with justification why this internal environment is not a credible environment for these tanks and each tank's associated drain line piping/isolation valves.

Response
The internal environment of the diesel generator fuel oil storage tanks and fuel oil day tanks is "fuel oil" as indicated in the line items for "tanks" in LRA Table 3.3.2-17 because fuel oil is what is contained in the tanks. Although a fuel oil environment is not conducive to aging mechanisms that cause loss of material, the LRA conservatively identifies loss of material, the aging effect associated with waste water, as the aging effect requiring management for system components in LRA Table 3.3.2-17.

Water in these tanks is considered a contaminant, and as indicated in the USAR Sections 9.5.4.3 and 9.5.4.4 quoted above, if water accumulates in these tanks, it is removed. These activities are governed by the Technical Specifications, which require water accumulated in these tanks to be removed every 31 days. The activities are also considered part of the Diesel Fuel Monitoring Program, described in LRA Section B.1.15, which states in part,

The Diesel Fuel Monitoring Program includes periodic inspections of low flow areas where contaminants may collect such as in the bottom of tanks. The fuel oil storage tanks are periodically sampled, drained, inspected, and cleaned. Internal tank inspections for signs of moisture, contaminants, and corrosion will be performed at least once during the 10-year period prior to the period of extended operation, and at least once every 10 years during the period of extended operation. Where degradation is observed, a wall thickness determination is made. Water, biological activity, and particulate concentrations are monitored and trended in accordance with the plant's technical specifications or at least quarterly.

As stated in the RBS Technical Specifications Bases for SR 3.8.1.5 and 3.8.3.5, removal of water from the fuel oil tanks once every 31 days eliminates the necessary environment for bacterial survival. This is an effective means of controlling microbiological fouling. Microbiological fouling is a major cause of fuel oil degradation. There are numerous bacteria that can grow in fuel oil and cause fouling, but all must have a water environment in order to survive. In addition, removal of the water eliminates the potential for water entrainment in the fuel oil during diesel engine operation. Frequent checking for and removal of accumulated water minimizes fouling and provides indication of the watertight integrity of the fuel oil system. The surveillance frequency is established by Regulatory Guide 1.137.

The Diesel Fuel Monitoring Program, consistent with the program described in NUREG-1801, Section XI.M30, Fuel Oil Chemistry, will manage the effects of aging by ensuring that moisture and other contaminants are kept out of, or removed from, the internal fuel oil environment of system components. The One-Time Inspection Program (LRA Section B.1.32) includes inspections to verify that the Diesel Fuel Monitoring Program has been effective at managing the effects of aging.

Question
RAI 2.3.3.18-1 [Auxiliary Systems in Scope for 10 CFR 54.4(a)(2)]

Background
The staff performed its scoping and screening review of LRA Section 2.3.3.18 "Auxiliary Systems in Scope for 10 CFR 54.4(a)(2)." Some components of the Leak Detection System are subjected to AMR since they provide system integrity by maintaining the intended pressure-retaining boundary function for the system with respect to 10 CFR 54.4(a)(2).

Issue
After review of the information contained within LRA Section 2.3.3.18 related to the "Leak Detection System" and its related LRA Table 2.3.3-18-7 "Leak Detection System - Nonsafety-Related Components Affecting Safety-Related Systems - Components Subject to Aging Management Review" the staff requires clarification of the "Component Types" subject to AMR entitled for example "Hose 2" [i.e. "Flexible Connection/Coupling" on PID-00-02D Coordinate M-14] within pipe line ID (E31) 750-609-4 and for example "ED1403" [i.e. "(HUD) Floor Drain" on PID-00-02D Coordinate B-20] displayed on LRA-PID-32-09C. Component Type "Flex Hose" is neither listed in LRA Table 2.3.3-18-7 nor LRA Table 2.3.3-16 "Plant Drains System Components Subject to Aging Management Review." Component Type ""(HUD) Floor Drain" is neither listed in LRA Table 2.3.3-16 nor LRA Table 2.3.3-18-23 "Drains - Floor and Equipment System Nonsafety-Related Components Affecting Safety-Related Systems Components Subject to Aging Management Review."

Request
Please identify where the LRA addresses the AMR for these two "Component Types" or provide the staff with justification why these two "Component Types" are not listed within LRA Table 2.3.3-16, LRA Table 2.3.3-18-7 or LRA Table 2.3.3-18-23.

Response
Components such as "Hose 2" and "ED1403" (highlighted in yellow on LRA-PID-32-09C) are in System 609, drains – floor and equipment system, and are in the scope of license renewal because they are nonsafety-related components affecting safety-related components. As shown in the table on LRA page 2.3-184, these components are addressed in LRA Table 2.3.3-18-23 and Table 3.3.2-18-23.

The hoses are included in the component type "Flex hose" in Table 2.3.3-18-23 and Table 3.3.2-18-23. The floor drain hubs collect water from the sources shown on LRA-PID-32-09C and deliver it through drainage piping to the drywell equipment drain sump. The hubs and associated piping are included in the component type "Piping" in Table 2.3.3-18-23 and Table 3.3.2-18-23.

Question
RAI 2.3.3.18-2 [Auxiliary Systems in Scope for 10 CFR 54.4(a)(2)]

Background
The staff performed its scoping and screening review of LRA Section 2.3.3.18 "Auxiliary Systems in Scope for 10 CFR 54.4(a)(2)." Some components of the Suppression Pool Cleanup System are subjected to AMR since they provide system integrity by maintaining the intended pressure-retaining boundary function for the system with respect to 10 CFR 54.4(a)(2).

Issue
After review of the information contained within LRA Section 2.3.3.18 related to the "Suppression Pool Cleanup" and its related LRA Table 2.3.3-18-25 "Suppression Pool Cleanup System - Nonsafety-Related Components Affecting Safety-Related Systems - Components Subject to Aging Management Review" the staff requires clarification of the "Component Types" subject to AMR. Drawing LRA-PID-27-08A displays the following instrumentation: "RTD" with thermowell, "PT" pressure transmitter with tubing, "FE" flow element, "PDT" with tubing and "CE" conductivity element with tubing as components subject to AMR. The "Component Types" of "Thermowell," "Tubing" and "Flow Element" are not listed LRA Table 2.3.3-18-25.

Request
Please identify where the LRA addresses the AMR for these "Component Types" or, if not included, provide a discussion of the component and address how aging is managed, or provide the staff with justification why these "Component Types" need not be listed in LRA Table 2.3.3-18-25.

Response
Suppression pool cleanup system component types flow element, conductivity element, thermowell and tubing shown on LRA-PID-27-08A are subject to aging management review. The Water Chemistry Control – BWR Program manages the effects of aging on these stainless steel components as shown in the revised tables below.

During preparation of this response, it was noted that the Water Chemistry Control – BWR Program rather than the Water Chemistry Control – Closed Treated Water Systems Program is the program applicable to the suppression pool cleanup system. The LRA is revised to clarify that the Water Chemistry Control – BWR Program manages the effects of aging on components in the suppression pool cleanup system.

The changes to LRA Table 2.3.3-18-25 and Table 3.3.2-18-25 follow with additions underlined and deletions lined through.

Table 2.3.3-18-25
Suppression Pool Cleanup System
Nonsafety-Related Components Affecting Safety-Related Systems
Components Subject to Aging Management Review

Component Type	Intended Function
Bolting	Pressure boundary
Conductivity element	Pressure boundary
Expansion joint	Pressure boundary
Flow element	Pressure boundary
Heat exchanger (end cover)	Pressure boundary
Piping	Pressure boundary
Pump casing	Pressure boundary
Thermowell	Pressure boundary
Tubing	Pressure boundary
Valve body	Pressure boundary

Table 3.3.2-18-25
Suppression Pool Cleanup System
Nonsafety-Related Components Affecting Safety-Related Systems
Summary of Aging Management Evaluation

Table 3.3.2-18-25: Suppression Pool Cleanup System, Nonsafety-Related Components Affecting Safety-Related Systems								
Component Type	**Intended Function**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Program**	**NUREG-1801 Item**	**Table 1 Item**	**Notes**
Conductivity element	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	VII.J.AP-123	3.3.1-120	A
Conductivity element	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Cracking	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	VIII.C.SP-88 ~~VII.C2.AP-186~~	3.4.1-11 ~~3.3.1.49~~	C, 301~~C~~
Conductivity element	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Loss of material	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	VII.A4.AP-110 ~~VII.C2.A.52~~	3.3.1-25 ~~3.3.1.49~~	C, 301~~C~~
Expansion joint	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Cracking	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	~~VII.C2.AP-186~~ VIII.C.SP-88	~~3.3.1-43~~ 3.4.1-11	C, 301
Expansion joint	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Loss of material	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	~~VII.C2.A-52~~ VII.A4.AP-110	~~3.3.1-49~~ 3.3.1-25	~~C~~A, 301
Flow element	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	VII.J.AP-123	3.3.1-120	A

Table 3.3.2-18-25: Suppression Pool Cleanup System, Nonsafety-Related Components Affecting Safety-Related Systems								
Component Type	**Intended Function**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Program**	**NUREG-1801 Item**	**Table 1 Item**	**Notes**
Flow element	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Cracking	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	~~VIII.C.SP-88~~ ~~VII.C2.AP-186~~	3.4.1-11 ~~3.3.1-43~~	C, 301~~C~~
Flow element	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Loss of material	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	VII.A4.AP-110 ~~VII.C2.A.52~~	3.3.1-25 ~~3.3.1-49~~	C, 301~~C~~
Heat exchanger (end cover)	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Cracking	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	~~VII.E3.AP-192~~ VII.E3.AP-112	~~3.3.1-44~~ 3.3.1-20	C, 301
Heat exchanger (end cover)	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Loss of material	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	~~VII.C2.A-52~~ VII.A4.AP-111	~~3.3.1-49~~ 3.3.1-25	~~C~~A, 301
Piping	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Cracking	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	~~VII.C2.AP-186~~ VIII.C.SP-88	~~3.3.1-43~~ 3.4.1-11	C, 301
Piping	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Loss of material	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	~~VII.C2.A-52~~ VII.A4.AP-110	~~3.3.1-49~~ 3.3.1-25	~~C~~A, 301
Pump casing	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Cracking	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	~~VII.C2.AP-186~~ VIII.C.SP-88	~~3.3.1-43~~ 3.4.1-11	C, 301

Table 3.3.2-18-25: Suppression Pool Cleanup System, Nonsafety-Related Components Affecting Safety-Related Systems								
Component Type	**Intended Function**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Program**	**NUREG-1801 Item**	**Table 1 Item**	**Notes**
Pump casing	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Loss of material	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	~~VII.C2.A-52~~ VII.A4.AP-110	~~3.3.1-49~~ 3.3.1-25	~~C~~A, 301
Thermowell	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	VII.J.AP-123	3.3.1-120	A
Thermowell	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Cracking	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	VIII.C.SP-88 ~~VII.C2.AP-186~~	3.4.1-~~11.3.3.1.43~~	C, 301~~C~~
Thermowell	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Loss of material	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	VII.A4.AP-110 ~~VII.C2.A-52~~	3.3.1-25 ~~3.3.1-49~~	A.301 ~~C~~
Tubing	Pressure boundary	Stainless steel	Air – indoor (ext)	None	None	VII.J.AP-123	3.3.1-120	A
Tubing	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Cracking	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	VIII.C.SP-88 ~~VII.C2.AP-186~~	3.4.1-11 ~~3.3.1-43~~	C 301 ~~C~~
Tubing	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Loss of material	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	VII.A4.AP-110 ~~VII.C2.A-52~~	3.3.1-25 ~~3.3.1-49~~	A.301~~C~~

Table 3.3.2-18-25: Suppression Pool Cleanup System, Nonsafety-Related Components Affecting Safety-Related Systems								
Component Type	**Intended Function**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Program**	**NUREG-1801 Item**	**Table 1 Item**	**Notes**
Valve body	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Cracking	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	~~VII.C2.AP-186~~ VIII.C.SP-88	~~3.3.1-43~~ 3.4.1-11	C, 301
Valve body	Pressure boundary	Stainless steel	Treated water > 140°F (int)	Loss of material	Water Chemistry Control – ~~Closed Treated Water Systems~~ BWR	~~VII.C2.A-52~~ VII.A4.AP-110	~~3.3.1-49~~ 3.3.1-25	~~C~~A, 301

Question
RAI 2.3.4.2-1 [Steam and Power Conversion Systems in Scope for 10 CFR 54.4(a)(2)]

Background
The staff performed its scoping and screening review of LRA Section 2.3.4.2 "Steam and Power Conversion Systems in Scope for 10 CFR 54.4(a)(2)." Some components of the Condensate Makeup, Storage and Transfer System are subjected to AMR because failure of structural or pressure boundary function for the system could result in failure of nearby safety-related components, as required by 10 CFR 54.4(a)(2).

Issue
After review of the information contained within the LRA section related to the "Condensate Makeup, Storage and Transfer System;" and its related LRA Table 2.3.4-2-1 and LRA Table 3.4.2-2-1; the staff requires clarification of an "Environment" invoked in Table 3.4.2-2-1 "Condensate Makeup, Storage and Transfer System Nonsafety-Related Components Affecting Safety-Related Systems Summary of Aging Management Evaluation".

LRA-PID-04-03C (Coordinate N-17) displays "Filter Housing" (i.e. CNS–FLT-21) with related instrument "Tubing" to differential pressure indicator CNS-PDI21 as being subject to AMR. LRA Table 3.4.2-2-1 list an internal "Environment" of "Lube Oil" for the "Filter Housing" but not for the associated instrument "Tubing" nor the associated drain "Piping" and drain "Valve Body." A justification for the use of an internal "Environment" of Lube Oil could not be found in either USAR Section 9.2.6 "Condensate Storage Facilities" or Entergy System Design Criteria SDC-104/106/608.

Request
The staff requests additional information to clarify the internal environment for the tubing, drain piping, and drain valve body to resolve the discrepancies identified above and, if required, a revision of LRA Table 3.4.2-2-1.

Response
Component CNS-FLT21 is the reactor water clean-up system fill line inlet filter. The filter housing has an internal environment of treated water, which is consistent with the associated tubing, drain piping, and drain valve body.

The changes to LRA Section 3.4.2.1.2, Table 3.4.1 and Table 3.4.2-2-1 follow with additions underlined and deletions lined through.

3.4.2.1.2 Steam and Power Conversion Systems in Scope for 10 CFR 54.4(a)(2)

Environments

Nonsafety-related components affecting safety-related systems are exposed to the following environments.

- Air – indoor
- Concrete
- Condensation
- ~~Lube oil~~
- Treated water
- Waste water

Aging Management Programs

The following aging management programs manage the effects of aging on nonsafety-related components affecting safety-related systems.

- Bolting Integrity
- Compressed Air Monitoring
- External Surfaces Monitoring
- Flow-Accelerated Corrosion
- Internal Surfaces in Miscellaneous Piping and Ducting Components
- ~~Oil Analysis~~
- One-Time Inspection
- Water Chemistry Control – BWR

Table 3.4.1
Summary of Aging Management Programs for the Steam and Power Conversion Systems Evaluated in Chapter VIII of NUREG-1801

Table 3.4.1: Steam and Power Conversion Systems					
Item Number	**Component**	**Aging Effect/ Mechanism**	**Aging Management Programs**	**Further Evaluation Recommended**	**Discussion**
3.4.1-44	Stainless steel piping, piping components, and piping elements, heat exchanger components exposed to lubricating oil	Loss of material due to pitting, crevice, and microbiologically influenced corrosion	Chapter XI.M39, "Lubricating Oil Analysis," and Chapter XI.M32, "One-Time Inspection"	No	~~Consistent with NUREG-1801. Loss of material for stainless steel components exposed to lube oil is managed by the Oil Analysis Program. The One-Time Inspection Program will verify the effectiveness of the Oil Analysis Program to manage loss of material.~~ This item was not used. There are no stainless steel components exposed to lube oil in the steam and power conversion systems in the scope of license renewal.

Table 3.4.2-2-1
Condensate Makeup, Storage and Transfer System
Nonsafety-Related Components Affecting Safety-Related Systems
Summary of Aging Management Evaluation

Table 3.4.2-2-1: Condensate Makeup, Storage and Transfer System, Nonsafety-Related Components Affecting Safety-Related Systems								
Component Type	**Intended Function**	**Material**	**Environment**	**Aging Effect Requiring Management**	**Aging Management Program**	**NUREG-1801 Item**	**Table 1 Item**	**Notes**
Filter housing	Pressure boundary	Stainless steel	~~Lube oil~~ Treated Water (int)	Loss of material	~~Oil Analysis~~ Water Chemistry Control – BWR	~~VIII.E.SP-95~~ VIII.E.SP-87	~~3.4.1-44~~ 3.4.1-16	A, ~~402~~ 401