

## NRR-DMPSPeM Resource

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**Sent:** Monday, February 12, 2018 12:43 PM  
**To:** wmagui1@entergy.com  
**Cc:** RidsNrrDmlr Resource; RidsNrrDmlrMrpb Resource; RidsNrrPMRiverBend Resource; RidsOgcMailCenter Resource; Wilson, George; Donoghue, Joseph; Sayoc, Emmanuel; Wong, Albert; Nold, David; Oesterle, Eric; Alley, David; Martinez Navedo, Tania; Bailey, Stewart; Wittick, Brian; Ruffin, Steve; Bloom, Steven; Regner, Lisa; Turk, Sherwin; Sowa, Jeffrey; Parks, Brian; Pick, Greg; Kozal, Jason; Young, Cale; Young, Matt; Werner, Greg; McIntyre, David; Dricks, Victor; Moreno, Angel; Burnell, Scott; 'Broussard, Thomas Ray'; Lach, David J; SCHENK, TIMOTHY A; 'Coates, Alyson'; Dennig, Robert  
**Subject:** FINAL REQUESTS FOR ADDITIONAL INFORMATION FOR THE SAFETY REVIEW OF THE RIVER BEND STATION LICENSE RENEWAL APPLICATION (CAC NO. MF9757) – SET 11  
**Attachments:** RAI Set 11 email ATTACHMENT 1 (14RAIs)\_updated\_021218.pdf; RAI Set 11 Enclosure - CLEAN Final (14 RAIs)\_020918.pdf

Docket No. 50-458

Dear Mr. Maguire:

By letter dated May 25, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17153A282), Entergy Operations, Inc. (the applicant) submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants," to renew the operating license NPF-47 for River Bend Station.

On January 16, 2018, the U.S Nuclear Regulatory Commission (NRC) staff sent Entergy Operations, Inc. the draft Requests for Additional Information (RAIs) for various technical review packages (TRP). Entergy Operations, Inc. subsequently informed the NRC staff that clarification calls were needed to discuss the information requested in all TRPs. A clarification call was subsequently held on January 23, 2018. The specific actions taken after the call are summarized in Attachment 1. The final RAIs are enclosed.

David Lach of your staff agreed to provide a response to all the final RAIs within 30 days of the date of this email. The NRC staff will be placing a copy of this email in the NRC's Agencywide Documents Access and Management System.

Sincerely,

Emmanuel Sayoc, Project Manager *Albert Wong* for  
License Renewal Projects Branch (MRPB)  
Division of Materials and License Renewal  
Office of Nuclear Reactor Regulation

Docket No. 50-458

Enclosure:  
As stated

OFFICE	PM:MRPB:DMLR	BC: MRPB:DMLR	PM: MRPB:DMLR
NAME	ESayoc	EOesterle	ESayoc <i>Albert Wong for</i>
DATE	02/05/2018	02/06/2018	02/09/2018

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**Hearing Identifier:** NRR\_DMPS  
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**Subject:** FINAL REQUESTS FOR ADDITIONAL INFORMATION FOR THE SAFETY  
REVIEW OF THE RIVER BEND STATION LICENSE RENEWAL APPLICATION (CAC NO. MF9757) –  
SET 11

**Sent Date:** 2/12/2018 12:42:35 PM

**Received Date:** 2/12/2018 12:42:00 PM

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Files	Size	Date & Time
MESSAGE	1618	2/12/2018 12:42:00 PM
RAI Set 11 email ATTACHMENT 1 (14RAIs)_updated_021218.pdf		117219
RAI Set 11 Enclosure - CLEAN Final (14 RAIs)_020918.pdf		217299

**Options**

**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

**ATTACHMENT 1 Summary of RAIs Set 11 Sent to Entergy Operations Inc.**

<b>No.</b>	<b>TRP#</b>	<b>RAI#</b>	<b>RAI Issue</b>	<b>Date Sent to Entergy</b>	<b>Date of Clarification Call</b>	<b>Modified</b>
1	NA	2.3.2.6-1	Standby Gas Treatment	01/16/18	01/23/18	No
2	NA	2.3.2.6-2	Standby Gas Treatment	01/16/18	01/23/18	No
3	37	2.3.2.7-1	Containment Penetrations	01/16/18	Not Required	No
4	37	2.3.3.13-1	Misc. HVAC	01/16/18	Not Required	No
5	NA	2.3.3.15-1	Fuel Pool Cooling and Cleanup System	01/16/18	01/23/18	No
6	NA	2.3.3.15-2	Fuel Pool Cooling and Cleanup System	01/16/18	Not Required	Yes
7	NA	2.3.3.16-1	Plant Drains	01/16/18	01/23/18	Yes
8	NA	2.3.3.16-3	Plant Drains	01/16/18	01/23/18	Yes
9	NA	2.3.3.17-1	Fuel Oil	01/16/18	01/23/18	Yes
10	NA	2.3.3.17-2	Fuel Oil	01/16/18	01/23/18	Yes
11	NA	2.3.3.17-3	Fuel Oil	01/16/18	01/23/18	No
12	NA	2.3.3.18-1	Auxiliary Systems in Scope of 10 CFR 54.4(a)(2)	01/16/18	Not Required	Yes
13	NA	2.3.3.18-2	Auxiliary Systems in Scope of 10 CFR 54.4(a)(2)	01/16/18	01/23/18	No
14	2	2.3.4.2-1	Steam and Power Conversion Systems in Scope of 10 CFR 54.4(a)(2)	01/16/18	Not Required	Yes

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

10 CFR § 54.21(a)(3) requires an applicant to demonstrate that the effects of aging for structures and components will be adequately managed so that the intended function(s) will be maintained consistent with the current licensing basis for the period of extended operation. One of the findings that the staff must make to issue a renewed license (10 CFR § 54.29(a)) is that actions have been identified and have been or will be taken with respect to managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under § 54.21, such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the current licensing basis (CLB). As described in SRP LR, an applicant may demonstrate compliance with 10 CFR 54.21(a)(3) by referencing the GALL Report. In order to complete its review and enable making a finding under 10 CFR § 54.29(a), the staff requires additional information in regard to the matters described below.

**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?

**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.

### **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.

### **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.

### **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.

### **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

### **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.

### **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.

### **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.

### **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.

Section 7 “Protection of Special Fire Hazards Exposing Areas Important to Safety” of Regulatory Guide 1.189 “Fire Protection for Nuclear Power Plants” reads in part:

... Leakage should be collected and drained to a vented closed container that can hold the entire lube oil system inventory. A flame arrester is required in the

vent if the flashpoint characteristics of the oil present the hazard of fire flashback.

...

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 Arrestor" 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.

### **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 2<sup>nd</sup> 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.

### **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.

### **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.

### **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.