

## **NRR-DMPSPeM Resource**

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**From:** Sayoc, Emmanuel  
**Sent:** Wednesday, December 13, 2017 2:15 PM  
**To:** wmagui1@entergy.com  
**Cc:** RidsNrrDmlr Resource; RidsNrrDmlrMrpb Resource; RidsNrrPMRiverBend Resource; RidsOgcMailCenter Resource; Wilson, George; Donoghue, Joseph; Wong, Albert; Billoch, Araceli; Iqbal, Naeem; Casto, Greg; Rogers, Bill; Burton, William; 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'; Min, Seung; Gardner, William; Sayoc, Emmanuel  
**Subject:** FINAL REQUESTS FOR ADDITIONAL INFORMATION FOR THE SAFETY REVIEW OF THE RIVER BEND STATION LICENSE RENEWAL APPLICATION (CAC NO. MF9757) - SET 4  
**Attachments:** RAI Set 4 Enclosure 12-12-2017.pdf  
**Importance:** High

Docket No. 50-458

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 December 4, 2017, the U.S Nuclear Regulatory Commission (NRC) staff sent Entergy Operations, Inc. the draft Requests for Additional Information (RAIs). Entergy Operations, Inc. subsequently informed the NRC staff that a clarification call was needed to discuss the information requested. The clarification call was held on December 7, 2017 between NRC staff and Entergy Operations, Inc. representatives, during which the subject information requests were discussed. The draft RAIs were modified based on these discussions. The final RAIs are enclosed.

After discussions with Entergy and further review of the license renewal application, the NRC staff determined it was not necessary to send RAI 3.2.1.17-1 on Water Chemistry.

David Lach of your staff agreed to provide a response to 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  
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
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DATE	12/12/2017	12/13/2017	12/13/2017

**OFFICIAL RECORD COPY**

**Hearing Identifier:** NRR\_DMPS  
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**Mail Envelope Properties** (Emmanuel.Sayoc@nrc.gov20171213141500)

**Subject:** FINAL REQUESTS FOR ADDITIONAL INFORMATION FOR THE SAFETY REVIEW OF THE RIVER BEND STATION LICENSE RENEWAL APPLICATION (CAC NO. MF9757) - SET 4

**Sent Date:** 12/13/2017 2:15:08 PM

**Received Date:** 12/13/2017 2:15:00 PM

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**Post Office:**

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	1778	12/13/2017 2:15:00 PM
RAI Set 4 Enclosure 12-12-2017.pdf		62008

**Options**

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

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

Section 54.21(a)(3) of 10 CFR 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. As described in SRP LR, an applicant may demonstrate compliance with 10 CFR 54.21(a)(3) by referencing the GALL Report, when the evaluation of the matter in the GALL Report applies to the plant.

**RAI B.1.5-1 (TRP 6 BWR CRD Return Line Nozzle)**

Background:

The “scope of program” program element of GALL Report AMP XI.M6, “Control Rod Drive Return Line Nozzle,” states that the scope of the program includes the control rod drive return line (CRDRL) nozzle and its nozzle-to-reactor-vessel welds which are ASME Code Class 1 components. The program element also indicates that, if an applicant has cut the piping to the CRDRL nozzle and capped the CRDRL nozzle, the scope of the program also includes a CRDRL nozzle cap and any associated nozzle-to-cap welds.

LRA Sections B.1.5 (program description) and A.1.5 (USAR supplement for the program) and program basis document (RBS-15-00006, Revision 1) indicate the following: (a) the CRDRL was removed and the CRDRL nozzle was capped prior to the plant operation; (b) the capped nozzle design includes a carbon steel safe end between the carbon steel nozzle and the nickel alloy cap; (c) the program scope includes the CRDRL nozzle, nozzle-to-reactor vessel weld, CRDRL nozzle cap, and Inconel end cap to carbon steel safe end dissimilar metal weld; and (d) the nozzle, cap, and associated welds are included in the applicant’s inservice inspection and visual inspections (VT-2) are performed on these components.

NRC Information Notice (IN) 2004-08, which is referenced in GALL Report AMP XI.M6, describes the operating experience regarding stress corrosion cracking (SCC) in the CRDRL nozzle-to-cap weld (Inconel 82/182 weld).

Issue:

The CRDRL nozzle design includes a safe end between the nozzle and the cap. In contrast, the LRA does not clearly indicate that the program scope includes the nozzle-to-safe-end weld.

Request:

1. Clarify whether the program scope includes the nozzle-to-safe-end weld. If it is not included in the program scope, identify a program that is used to manage cracking for this weld.
2. Clarify whether the applicant performs volumetric inspections on the nozzle-to-safe-end weld and safe-end-to-cap weld (e.g., ISI or BWRVIP-75-A inspections). If such volumetric inspections are not performed on these welds, provide justification for why volumetric inspections are not necessary in light of the industry operating experience (IN 2004-08) and potential material susceptibility to SCC.

**RAI B.1.15-1 (TRP 31 Fuel Oil Chemistry)**

Background:

SRP-LR Table 3.0-1, "FSAR Supplement for Aging Management of Applicable Systems," summary description provides an acceptable program description for the GALL Report AMP XI.M30, "Fuel Oil Chemistry," as per 10 CFR 54.21(d). The FSAR Supplement includes the specific ASTM Standards used for monitoring and control of fuel oil contamination to maintain fuel oil quality.

Issue:

LRA Section A.1.15, "Diesel Fuel Monitoring," USAR supplement does not appear to include the specific industry standards used for the program. The current licensing basis will not be consistent with the staff-issued guidance document during the period of extended operation if the industry standards recommended by the GALL Report are not used.

Request:

Justify the apparent absence of the above mentioned industry standards in the USAR supplement for the Diesel Fuel Monitoring program. Alternatively, state the changes to the USAR supplement necessary to include the GALL Report recommended industry standards that will be used for the program.

**RAI 3.1.2.4.2.1 (TRP 40 Lubricating Oil Analysis)**

Background:

The LRA states that the Oil Analysis program will be consistent with GALL Report AMP XI.M39, "Lubricating Oil Analysis." GALL Report AMP XI.M39 recommends a verification of the effectiveness of the lubricating oil program, such as GALL Report AMP XI.M32, "One-Time Inspection," to ensure that significant degradation is not occurring and the component's intended function is maintained during the period of extended operation.

Issue:

LRA Table 3.1.2-4-2 states that nickel alloy flex hose exposed to lube oil will be managed for loss of material by the Oil Analysis program.

LRA Table 3.3.2-3 states that titanium heat exchanger tubes exposed to lube oil will be managed for loss of material by the Oil Analysis program.

The above LRA Tables 3.1.2-4-2 and 3.3.2-3 do not appear to include a plant-specific note indicating that they will be included in the One-Time Inspection program inspection sample, as recommended by GALL Report AMP XI.M39.

Request:

Confirm whether a one-time inspection program such as GALL Report, AMP XI.M32, "One-Time Inspection," will be used to verify the effectiveness of the Oil Analysis program for managing loss of material by including the nickel alloy flex hose and titanium heat exchanger tube in the One-Time Inspection program. Alternatively, provide justification for not including the items in question in the One-Time inspection program.