



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
WASHINGTON, D.C. 20555-0001

January 24, 2017

Mr. G.T. Powell  
Site Vice President  
STP Nuclear Operating Company  
P.O. Box 289  
Wadsworth, TX 77483

SUBJECT: PLAN FOR THE 2017 SELECTIVE LEACHING OF ALUMINUM BRONZE  
AGING MANAGEMENT PROGRAM REGULATORY AUDIT REGARDING THE  
SOUTH TEXAS PROJECT, UNITS 1 AND 2, LICENSE RENEWAL  
APPLICATION REVIEW (CAC NOS. ME4936 AND ME4937)

Dear Mr. Powell:

By letter dated October 25, 2010, South Texas Project (STP) Nuclear Operating Company (STPNOC or the applicant) submitted an application for renewal of operating licenses NPF-76 and NPF-80 for STP, Units 1 and 2. The staff of the U.S. Nuclear Regulatory Commission (NRC or the staff) is reviewing this application in accordance with the guidance in NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants."

The staff plans to conduct a follow-up regulatory audit of your Selective Leaching of Aluminum Bronze Aging Management Program and associated issues from January 20, 2017, through March 3, 2017, in accordance with the enclosed regulatory audit plan. This audit may include onsite reviews, offsite reviews and in-office reviews. If you have any questions, please contact me by telephone at 301-415-3306 or by e-mail at [lois.james@nrc.gov](mailto:lois.james@nrc.gov).

Sincerely,

**/RA/**

Lois M. James, Senior Project Manager  
Projects Branch 1  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

Enclosure:  
As stated

cc w/encl: Listserv

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DISTRIBUTION:  
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**ADAMS Accession No.:** ML17017A148

**\*Concurred via email**

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<b>NAME</b>	RChazell (a)	LJames
<b>DATE</b>	1/24/2017	1/24/2017

**OFFICIAL RECORD COPY**

Letter to G.T. Powell from Lois M. James dated January 24, 2017

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## **Audit Plan**

# **2017 Follow-up Audit on Selective Leaching of Aluminum Bronze Aging Management Program for the South Texas Project, Units 1 and 2 License Renewal Application**

**January 23, 2017 – March 3, 2017**

**Division of License Renewal  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission**

ENCLOSURE

**License Renewal Aging Management Program Audit Plan  
Selective Leaching of Aluminum Bronze Aging Management Program  
South Texas Project**

**1. Background**

By letter dated October 25, 2010, South Texas Project (STP) Nuclear Operating Company (STPNOC), submitted to the U.S. Nuclear Regulatory Commission (NRC or the staff) its application for renewal of Operating License Nos. NPF-76 and NPF-80 for STP or applicant, Units 1 and 2, respectively. The applicant requested renewal of the operating licenses for an additional 20 years beyond the 40-year current license terms, which expire on August 20, 2027, for Unit 1 and December 15, 2028, for Unit 2. The staff from the Division of License Renewal (DLR) and the Division of Engineering (DE) in the Office of Nuclear Reactor Regulation (NRR) will conduct a follow-up regulatory audit to gain a better understanding of the Time of Flight Defraction Technique (TOFD) Ultrasonic Testing (UT) Examination that will be used to conduct the extent of condition following the failure of a structural integrity analysis as part of the applicant's Selective Leaching of Aluminum Bronze Aging Management Program (AMP), also referred to as Aluminum Bronze AMP. The TOFD UT Examination was initially discussed during the January 4, 2017, public teleconference (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML17005A104) and provided in the applicant's response dated January 12, 2017, to the staff's December 5, 2016, request for additional information (RAI) regarding the Aluminum Bronze AMP. The audit will support review of the AMP B2.1.37, "Selective Leaching of Aluminum Bronze" and associated aging management reviews, bases, and documentation as applicable.

**2. Regulatory Audit Bases**

License renewal requirements are specified in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 54 (10 CFR Part 54), "Requirements for Renewal of Operating Licenses for Nuclear Power Plants." Guidance is provided in NUREG-1800, Revision 2, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants" (SRP-LR), dated December 2010, and in NUREG-1801, Revision 2, "Generic Aging Lessons Learned (GALL) Report," dated December 2010.

**3. Regulatory Audit Scope and Methodology**

The scope of this audit is to gain a better understanding of the TOFD UT Examination that will be used to conduct the extent of condition following the failure of a structural integrity analysis as part of the applicant's Aluminum Bronze AMP. This audit will focus on the technical, analytical, and validation basis for the TOFD UT methodology's ability to identify and characterize aluminum bronze leaching. Results of this audit will be ultimately documented in the staff's SER.

During this audit, the staff will utilize the following scope as a guide. The staff may also examine the applicant's program basis documents and related references for this AMP, review background calculations and evaluations as needed, and interview applicant representatives to obtain additional clarification related to the AMP.

## SCOPE OF AUDIT

1. Review technical basis and validation methodology for the Time of Flight Defraction Technique (TOFD) to ensure that the staff understands the technique, the capability, and the applicability of this methodology to identifying aluminum bronze leaching, including but not limited to:
  - a. The Low Rigor level qualification in accordance with Section V, Article 14 of the 2004 Edition of the American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel Code (BPVC)
  - b. Confidence Level used to determine the sample size of welds subject to TOFD UT Examination
2. Review the personnel qualification for conducting the TOFD tests and assessing TOFD test results.
3. Review STP's criteria for determining when buried pipe inspections will be conducted subsequent to finding a weld that did not meet structural integrity requirements

#### **4. Information and Other Material Necessary for the Regulatory Audit**

The project team will review the available information and supporting documentation, as well as the license renewal application (LRA) and other AMP-related basis documents, as appropriate.

#### **5. Special Requests**

The staff emphasizes that, for a successful outcome, the applicant should make every effort to have available: (a) copies of relevant materials; (b) management; and (c) technical personnel with expertise in the TOFD UT Examination.

#### **6. Team Assignments**

NRC Staff participation is projected as follows (some deletions, additions or substitutions may occur on an as-needed basis). Site access may be requested; however unescorted access is not expected to be necessary as long as the meeting place is outside of the protected area fence.

<b>Area of Review</b>	<b>Assigned Auditor</b>
Project Manager	Lois M. James, DLR
Technical Lead	William Holston, DLR
Technical Reviewer	Stephen Cumblidge, DE
Technical Reviewer	Chris Hovanec, DE
Technical Reviewer	Carol Nove, DE

## **7. Logistics**

The parts of this audit may be conducted on location at the STP site, with rooms and space to be supplied by STPNOC, on location at STP supplied offices in the Rockville, Maryland, area, or in-office at the NRC Headquarters offices in Rockville, Maryland.

## **8. Deliverables**

RAI(s) may be issued as deemed necessary by the staff.

An audit summary report will be issued to the applicant, normally within 90 days from the end of the audit. Final evaluation of the Aluminum Bronze AMP as applied to the pipe-to-pipe welds and related issues will be presented in the staff's SER for the STP license renewal application.