UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

April 2, 2013

Mr. Joseph W. Shea
Vice President, Nuclear Licensing
Tennessee Valley Authority
1101 Market Street, LP 3D-C
Chattanooga, TN 37402-2801

SUBJECT: PUBLIC MEETING SUMMARY – BROWNS FERRY NUCLEAR PLANT – DOCKET NOS. 50-259, 50-260, 50-296; SEQUOYAH NUCLEAR PLANT – DOCKET NOS. 50-327, 50-328; WATTS BAR NUCLEAR PLANT – DOCKET NOS. 50-390, 50-391

Dear Shea:

This refers to the meeting conducted, at your request, at the NRC Region II office, Atlanta GA, on March 28, 2013, at 10:00 a.m. EDT. The meeting's purpose was to discuss the TVA commercial grade dedication program. Enclosed are a list of attendees and the presentation handouts.

Topics discussed included: The NRC concern with TVA's commercial grade dedication program, initial action taken by TVA in response to our concern, description of the current recovery projects, and remaining actions to be taken by TVA. TVA intends to complete a comprehensive evaluation of commercial grade dedicated items installed between 1995 and 2011 for the operating fleet, and correct any identified deficiencies by December 31, 2014.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room (PDR) or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room). Should you have any questions concerning this meeting, please contact me at 404-997-4521.

Sincerely,

/Gerald McCoy RA for/

Scott M. Shaeffer, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Enclosures:
1. List of Attendees
2. Handout - TVA Nuclear Fleet Commercial Grade Dedication Recovery Project

cc w/encls: (See page 2)

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cc w/encls: (See page 2)

X PUBLICLY AVAILABLE ☐ NON-PUBLICLY AVAILABLE ☐ SENSITIVE X NON-SENSITIVE
ADAMS: ☐ Yes ACCESSION NUMBER: X SUNSI REVIEW COMPLETE ☐ FORM 665 ATTACHED

OFFICE	RII:DRP	RII:DRP					
SIGNATURE	JDH /RA/	GJM /RA for/					
NAME	JHamman	SShaeffer					
DATE	04/02/2013	04/02/2013					
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\DRPII\RPB6\TVA MEETING SUMMARY.DOCX

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(cc w/encl continued next page)

(cc w/encl continued)

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Tennessee Department of Environment &
Conservation
Division of Radiological Health
401 Church Street
Nashville, TN 37243

Letter to Joseph W. Shea from Scott M. Shaeffer dated April 2, 2013

SUBJECT: MEETING ANNOUNCEMENT - PUBLIC MEETING
BROWNS FERRY NUCLEAR PLANT – DOCKET NOS. 50-259, 50-260, 50-296;
SEQUOYAH NUCLEAR PLANT – DOCKET NOS. 50-327, 50-328;
WATTS BAR NUCLEAR PLANT – DOCKET NOS. 50-390, 50-391

Distribution w/encl:
OEMAIL
L. Douglas, RII
C. Evans, RII
RIDSNRRDIRS
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RIDSNRRPMWatts Bar
PUBLIC

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245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

TVA COMMERICAL GRADE DEDICATION PROGRAM MEETING
March 28, 2013

NAME	TITLE
Dennis Aha	Korea Hydro & Nuclear Power Co, LTD
Don Jernigan	TVA
Joe Shea	TVA
J Laffrey	TVA
Joe Calle	TVA
Steve Martin	TVA
Rick Rassmussen	NRC
Gene Guthrie	NRC
Bob Haag	NRC
Scott Shaeffer	NRC
Jeff Hamman	NRC
Victor McCree	RA NRC
Bill Jones	NRC
Rick Crotew	NRC
Dan Pasquale	NRC
Siva Lingam	NRC
Nicole Robinson	NRR Associates
Douglas Yates	Mox Project
Anthony Masters	NRC
Al LaFleur	FPL
Craig Kontz	NRC
Bhavesh Patel	Duke

Enclosure 1

UNITED STATES
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ATLANTA, GEORGIA 30303-1257

TENNESSEE VALLEY AUTHORITY COMMERCIAL GRADE DEDICATION MEETING
Atlanta, Georgia
March 28, 2013

Name (Print)	Title and Organization
Rich McIntyre	NRC
Rodney White	NRC
Bill Freeburn	Platts
Marc Tamenbaum	INPO
Pam Sohn	Chattanooga Times Free Press

TVA Nuclear Fleet Commercial Grade Dedication Recovery Project

Enclosure 2

TVA Commercial Grade Dedication Recovery Project

Don Jernigan	Senior Vice President, Nuclear Support
Joe Calle	Recovery Project Manager
Steve Martin	PEG Program Manager
Joe Shea	Vice President, Nuclear Licensing
John Laffrey	Licensing Program Manager

TVA Nuclear

Agenda

• Purpose	Don Jernigan
• Terminology	Joe Calle
• Review NRC Concern	Joe Calle
• Nuclear Power Group Initial Actions	Joe Calle
• Current Recovery Project	Joe Calle
• Actions Forward and Commitment	Don Jernigan
• Closing Remarks	Don Jernigan

TVA Nuclear

Purpose

To ensure NRC understands that:

- TVA realizes the nature and significance of the NRC concern with the commercial grade dedication process.
- TVA acknowledges that TVA Nuclear Power Group's initial response to the issue identified at Watts Bar Unit 2 (WBN2) was not comprehensive or timely.
- TVA is dedicating the necessary resources to thoroughly evaluate the issue across the operating fleet in order to reinforce the basis for ensuring that commercial grade items will perform their intended safety function.

To ensure NRC has confidence that:

- TVA's evaluations conducted to date provide reasonable assurance that installed commercial grade items will perform their intended safety function while TVA continues to conduct a comprehensive review of the commercial grade dedicated items in the operating units.

TVA Nuclear

Terminology

- **Critical Characteristics** - Those important design, material, and performance characteristics of a commercial grade item that, once verified, will provide reasonable assurance that the item will perform its intended safety function.
- **Safety Function** - The piece part or subcomponent has a safety function if its failure or malfunction will prevent the host/equipment/system from performing the satisfactory accomplishment of its safety-related function during or following design basis accidents and transients
- **Commercial Grade Dedication (CGD) Package** – CGD packages are developed for each commercial grade item where the item is not available for purchase from either the Original Equipment Manufacturer/Supplier or a Third Party Qualifier. The majority of CGD packages are for commodity items that are used in safety related end uses such as electrical tape, terminal lugs and fuses. Each CGD item has it's own specific PDS that delineates the testing and acceptance criteria for the item.
- **TE** – Technical Evaluation. The Procurement Engineering evaluation process that establishes the technical and quality procurement requirements as well as acceptance criteria for the procurement of CATID's. The TE can address the technical and quality requirement, and acceptance criteria for multiple CATIDs.
- **PDS** – Procurement Data Sheet. A form that is populated based on a specific CATID and an approved Procurement Engineering TE. It contains all the necessary information required for purchase. This form is used by the Purchasing Organization for the purpose of procuring the item/services when needed. It is also contains the receipt inspection requirements including all acceptance requirements. Each CATID has it's own specific PDS.
- **CATID** – Catalog Identification Number. It is the TVA assigned alpha-numeric designator for each piece part and/or assembly in the TVA portfolio. Each CATID is represented by it's own specific PDS .
- **Item** – Any level of unit assembly, including structures, systems, subsystems, subassembly, component, part, or material.
- **Component** - Synonymous with CATID.

NRC Concern

- TVA's commercial grade dedication (CGD) program did not meet regulatory requirements resulting in numerous examples where CGD activities failed to adequately establish CGD items as basic components.

- Specific Issues
  - Failure to use correct 10 CFR 21 definition to define critical characteristics of items
  - Inadequate guidance to relate intended safety function with critical characteristics
  - Inadequate verification that procured item would meet intended safety function

Nuclear

NRC Concern

- Chronology of NRC Concern
  - September 2011
    - NRC Issued an Unresolved Item at Watts Bar Unit 2 related to the CGD process.
  - February 2012
    - NRC issued a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” associated with the CGD process.
    - Additional NRC Observations
      - Limited QA Oversight
      - Missed opportunities to identify programmatic weaknesses with the commercial grade dedication process
      - Extent of Condition evaluation was limited

Nuclear Power Group Initial Response

- Initial Causal Analysis
  - Completed Apparent Cause in September 2011
  - Identified Corrective Actions
    - Initiate Governance Actions and Organization
    - Develop Benchmarking Schedule
    - Rewrite Governing Procedure (NEDP-8)
    - Sample Reviews Were Performed As Site Specific Actions
  - Revised Apparent Cause in September 2012
    - Focused Self Assessment Performed in August 2012
    - Strengthened the Corrective Actions for the Apparent Cause

Nuclear Power Group Initial Response

TVA Management Assessment of Initial Causal Analysis

- Actions Did Not Include a Rigorous Basis for Assessing Commercially Dedicated Components Installed in Operating Plants.
- Actions Did Not Include Controls for Ensuring No Affected Commercially Dedicated Components Were Withdrawn From Inventory Without Rigorous Re-Review of Dedication Documentation.

Nuclear Power Group Recovery Project

- TVA Management Assessed Initial Response Not Adequate
  - December 2012
- Initiated More Comprehensive Response
  - Enacted a Hold on All In-Stock Commercially Dedicated Items
  - Began Development of Current Recovery Project
  - Performed Root Cause Analysis Associated with CGD Program Issues Back to 1995; Reviewed Governing Procedure NEDP-8 from Revision 0 to Revision 18

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Nuclear Power Group Recovery Project

- Root Cause Analysis – Completed March 2013
  - Problem Statement:
    - Implementation of the NPG commercial grade dedication process (1995-2011) resulted in some critical characteristics defined under 10 CFR 21 not being sufficiently identified, verified or documented. The insufficient identification and verification of critical characteristics has reduced the assurance that dedicated items could perform their intended safety functions.
  - Root Cause
    - Latent organizational and programmatic shortfalls within Engineering, Supply Chain and Procurement Engineering did not account for monitoring or assessing PEG organizational health, commercial grade dedication program weaknesses and industry changes.
  - Direct Cause
    - The Procurement Engineering group did not always provide sufficient documentation for the critical characteristics justification when dedicating parts. Neither the software template nor the procedure contains direction for capturing critical thinking and justification.

Nuclear Power Group Recovery Project

- Key Elements of Comprehensive Response
  - Basis for Reasonable Assurance That Items Evaluated Under TVA's Commercial Grade Dedication Program Will Perform Intended Safety Function
  - Actions to Reassess Commercial Dedication Adequacy
    - Components Currently Installed in Operating Units
    - Components in Inventory
    - Additional Programmatic Improvements

Nuclear Power Group Recovery Project

- Reasonable Assurance
  - TVA uses industry standard approach when procuring items for use in a safety related application – embodied in current and historical procedure revisions:
    - Preferred method is to procure material as safety related from original equipment supplier or manufacturer.
    - If preferred method not available, procure the material from a qualified third party vendor that has an audited 10 CFR 50 Appendix B program.
    - If neither is available, procure the material as commercial grade and dedicate it using TVA's commercial grade dedication process.
  - TVA has a sound relationship with many suppliers and vendors dating back many years.

Nuclear Power Group Recovery Project

- Reasonable Assurance (Continued)
  - TVA Supply Chain organization provides a series of defense in depth measures to assure quality in the procurement of commercial items to be used in the CGD process, including:
    - Commercial vendors are chosen based on proven industry performance.
    - Vendor performance is monitored by using ANSI N45.2.6, Level II, certified receipt inspectors and documentation is recorded, trended and reported.
  - Common application for procurement through the CGD process is for commodity items such as terminal lugs, electrical fuses, electrical tape, bearings and drive belts.

Nuclear Power Group Recovery Project

- Reasonable Assurance (Continued)
  - Other procedural requirements in NEDP-8 addressed selection of critical characteristics for acceptance based on safety functions and failure modes.
  - TVA has issued a large quantity of CGD items for use in the TVA nuclear fleet since 1995.
    - To date, no failures of installed items have been directly correlated to TVA's commercial grade dedication process.
  - To date, TVA's ongoing review of CGD items has verified, through technical review and testing if the review indicated it was needed, that items in question will perform their intended safety function.

Nuclear Power Group Recovery Project

- Reasonable Assurance (Continued)
  - TVA conducted a Root Cause Evaluation that reviewed the governing procedure of Commercial Grade Dedication. One of the conclusions identified by the team states:
    - "From the beginning in 1997, the initial issue of the governing procedure for Commercial Grade Items stated that the PEG engineer shall Select Critical Characteristics for Acceptance based upon the item's safety function. However, it is to be noted that the definition for Critical Characteristics for Acceptance in the governing procedure was not updated to reflect the last rule making decision of 10CFR21. "

Nuclear Power Group Recovery Project

- Reassessment of Commercial Dedicated Items
  - Items Currently Installed in Operating Units
  - Items in Inventory

- Project Scope
  - Defining Affected Population of Items

- Development of Reassessment Process
  - Review Standards and Action Thresholds
  - Significance Prioritization for Installed Items

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Nuclear Power Group Recovery Project

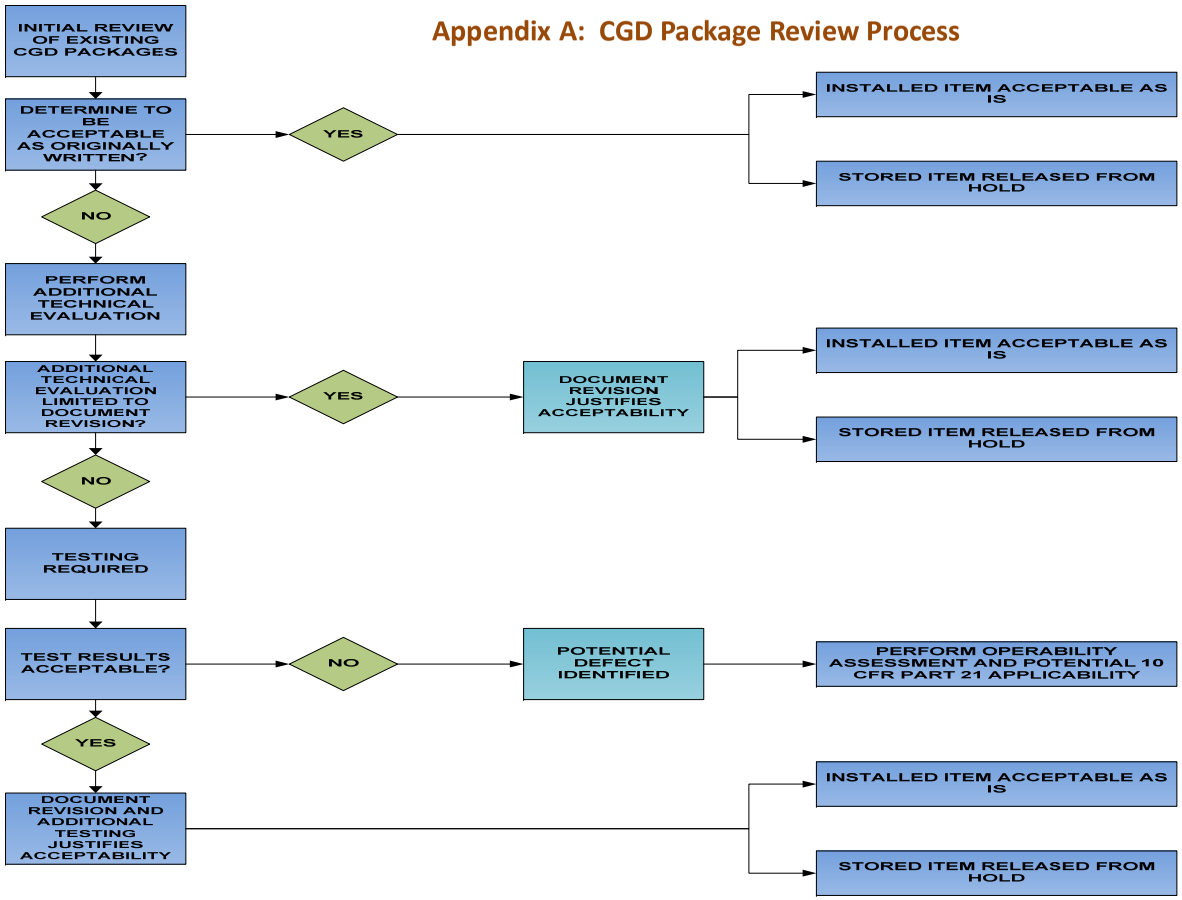
- Project Scoping Parameters and Challenges
  - 1995-2011
  - Multiple Procurement Databases Used Over The Period
- Project Scope Determined to Be:
  - Commercial Grade Dedicated Items identified in TVA's item database that have been issued to the plant.
  - Approximately, 4600 unique items have been issued from November 2001 to December 2012.
  - In addition, approximately 1600 unique items issued to the plant in the time frame prior to 2001 have been identified to date. TVA is continuing to search data bases for items issued to the plant in this time frame and expects to identify additional items for review.

Nuclear Power Group Recovery Project

- Reassessment Review Process
  - Process Diagrams on Slide 16-19
  - Applied to Review of Items in Plant and Items in Inventory
- Key Steps in Review Process
  - Assessment of As-Found Dedication Documents
  - Additional Technical Evaluation – If Required
  - Additional Testing – If Required
- Example Application of Review Process (Next Slides)

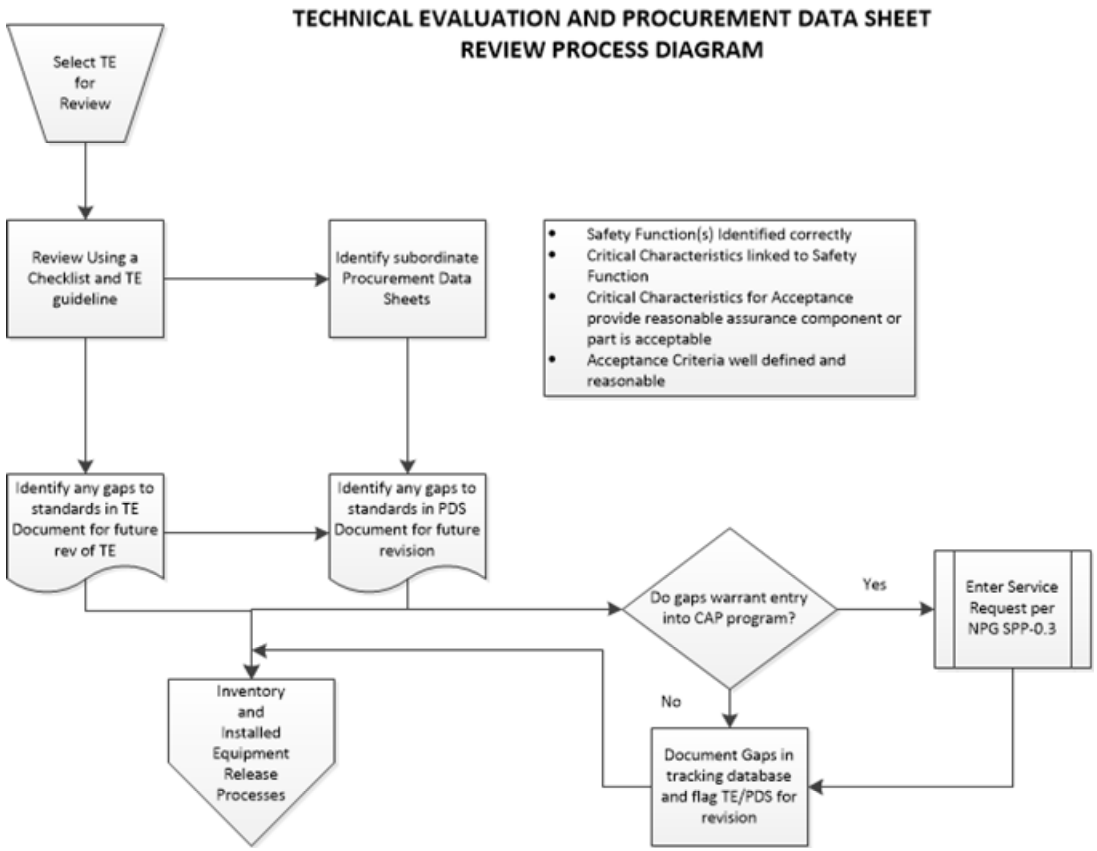
Nuclear Power Group Recovery Project

Appendix A: CGD Package Review Process



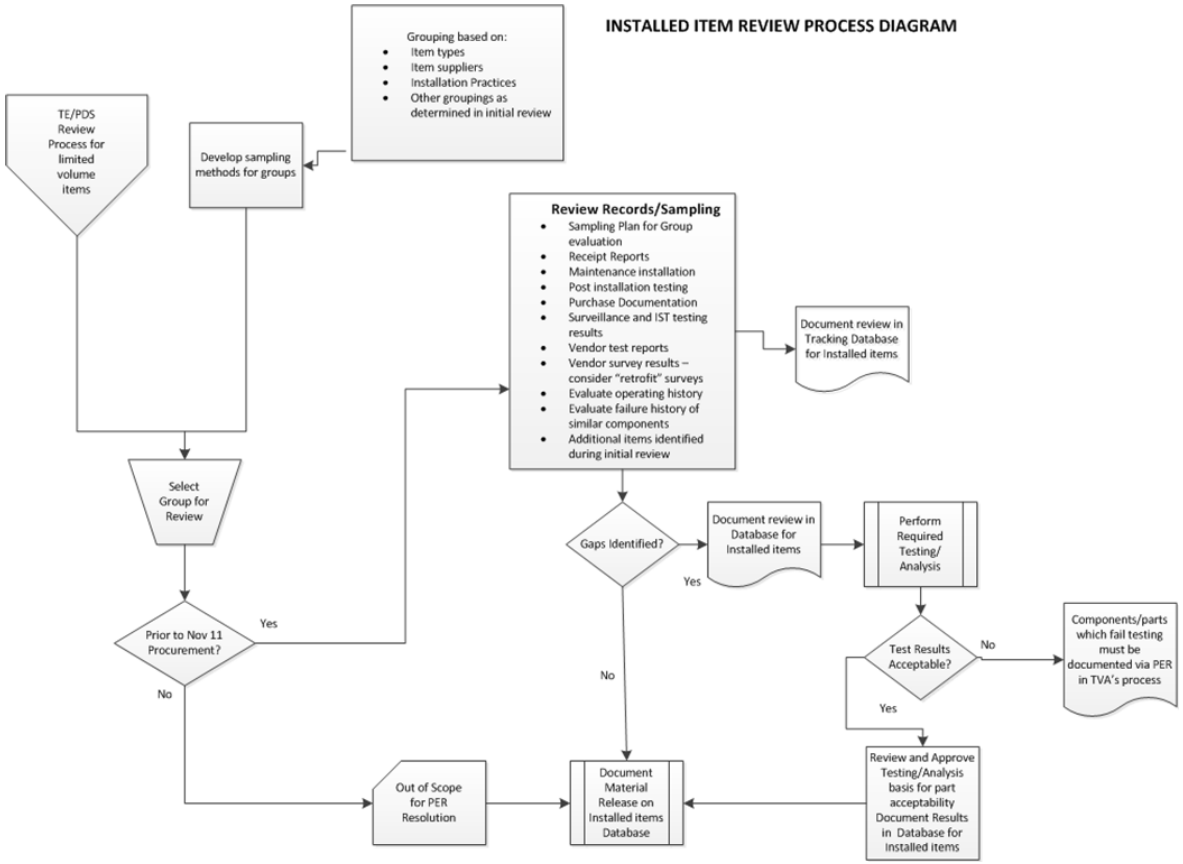
Enclosure 2

Nuclear Power Group Recovery Project



Enclosure 2

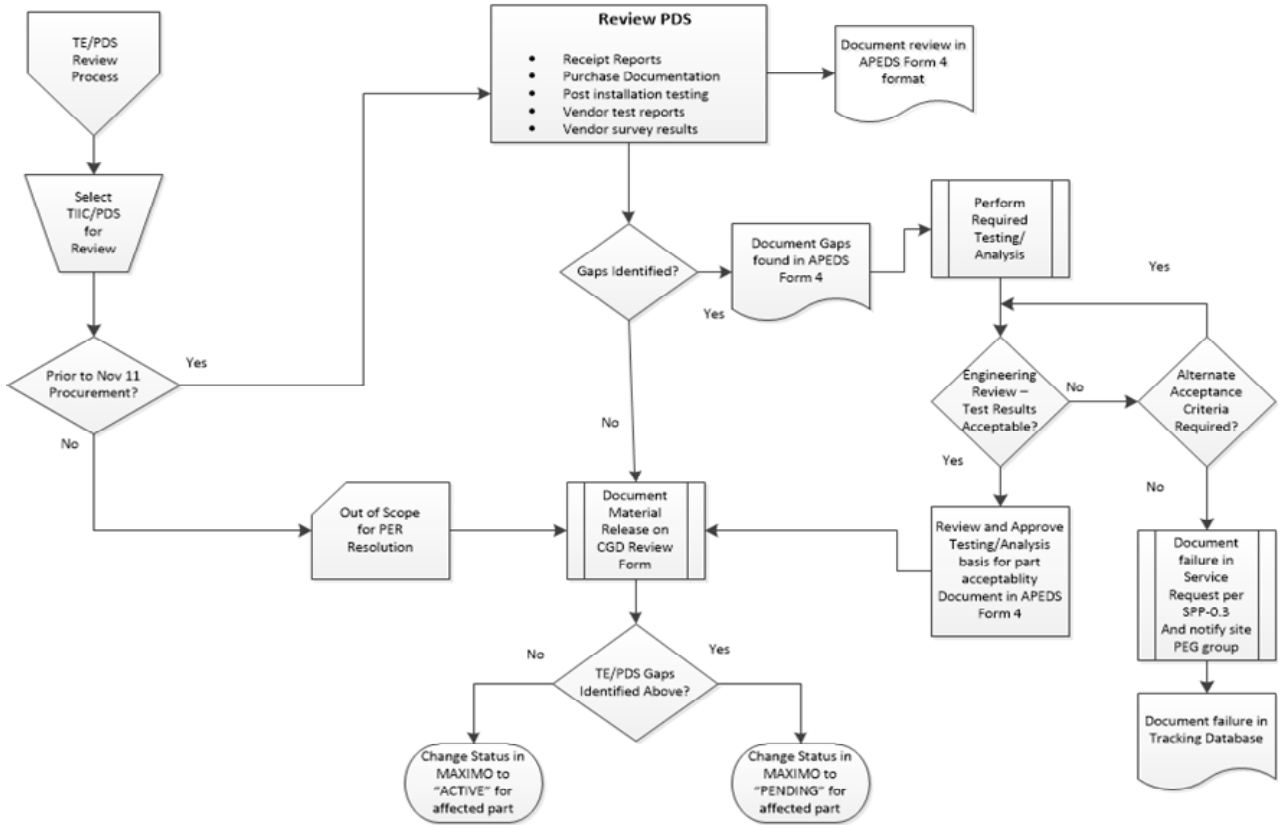
Nuclear Power Group Recovery Project



Enclosure 2

Nuclear Power Group Recovery Project

INVENTORY RELEASE PROCESS DIAGRAM



Nuclear Power Group Recovery Project

- Actions Taken to Date and Results
  - Items in Inventory Placed on Hold – January 14, 2013
  - Review of Items Prior to Release From Hold- Ongoing
    - 728 Packages Reviewed – includes construction and fleet packages
    - 374 Packages Found Acceptable As Written
    - 354 Packages Determined to Require Critical Characteristics Re-verification which includes actual Testing of Items in some cases.
    - To Date No Defective Items Have Been Identified

Nuclear Power Group Recovery Project

- Actions Taken to Date and Results (Continued)
  - Identification of Items Installed in Operating Plants
    - Items Installed Since 2001
    - Identification of Data for Items Installed 1995-2001 - Ongoing, Due to the Archaic Nature of Historical Documentation Archival
  - Development of Prioritization Approach for Installed Items
    - Ongoing
    - Development of Prioritization Approach Complete By April 30, 2013
  - Recovery Project Resources and Support
    - TVA Has Assembled Project Support Team of Internal TVA and External Expertise in Commercial Grade Dedication
    - Procurement of Additional Project Support In Progress

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Actions Forward and Commitment

- Commitment:
  - Complete a comprehensive evaluation of commercial grade dedicated items installed between 1995 and 2011 for the operating fleet. Correct any identified deficiencies by December 31, 2014.
- Actions Going Forward
  - Implement Recovery Project
  - Submit Commitment Including Recovery Project Action Plan Summary– By April 30, 2013