



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

April 30, 2013

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Browns Ferry Nuclear Plant, Units 1, 2, and 3  
Facility Operating License Nos. DPR-33, DPR-52, and DPR-68  
NRC Docket Nos. 50-259, 50-260, and 50-296

Sequoyah Nuclear Plant, Units 1 and 2  
Facility Operating License Nos. DPR-77 and DPR-79  
NRC Docket Nos. 50-327 and 50-328

Watts Bar Nuclear Plant, Unit 1  
Facility Operating License No. NPF-90  
NRC Docket No. 50-390

Subject: **Additional Information Regarding March 28, 2013, Public Meeting  
With NRC Regarding The Tennessee Valley Authority's (TVA)  
Commercial Grade Dedication Recovery Project**

- References:
- 1) NRC letter to TVA, "Watts Bar Nuclear Plant Unit 2 Construction - NRC Integrated Inspection Report 05000391/2011607," dated September 30, 2011 (ML112730134)
  - 2) NRC letter to TVA, "Watts Bar Nuclear Plant Unit 2 Construction - NRC Integrated Inspection Report 05000391/2011610," dated February 3, 2012 (ML12034A202)
  - 3) NRC letter to TVA, "Public Meeting Summary - Browns Ferry Nuclear Plant - Docket Nos. 50-259, 50-260, 50296; Sequoyah Nuclear Plant - Docket Nos. 50-327, 50-328; Watts Bar Nuclear Plant - Docket Nos. 50-390, 50-391," dated April 2, 2013 (ML13092A362)

During a public meeting on March 28, 2013, TVA discussed actions being taken by the Nuclear Power Group (NPG) to address commercial grade dedication program issues identified by the NRC in References 1 and 2, regarding Watts Bar Unit 2 Construction.

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Reference 3 provides the NRC Public Meeting Summary and includes the List of Attendees and the TVA Handout - TVA Nuclear Fleet Commercial Grade Dedication Recovery Project. As discussed, TVA NPG's initial response to the issues identified at Watts Bar Unit 2 was not sufficiently comprehensive or timely. However, TVA described a broad set of actions to address commercial grade dedication program issues and made a commitment to complete a comprehensive evaluation of commercial grade dedicated items installed between September 1995 and November 2011 for the operating fleet, and correct any identified deficiencies by December 31, 2014.

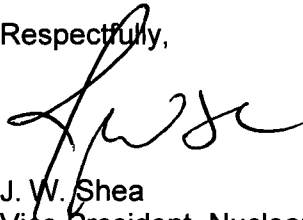
Enclosure 1 to this letter describes NRC questions raised during the March 28, 2013, public meeting and the associated TVA responses. Some, but not all of these matters were discussed at the March 28, 2013, public meeting.

Enclosure 2 to this letter provides a NPG Commercial Grade Dedication Recovery Project Action Plan Summary. During the March 28, 2013, meeting TVA stated that a Recovery Project Action Plan Summary would be submitted by April 30, 2013.

A list of commitments referred to in this letter is included in Enclosure 3.

Should you have any questions, please contact Mr. John Laffrey, at (423) 751-3262.

Respectfully,



J. W. Shea  
Vice President, Nuclear Licensing

Enclosures:

1. NRC Questions Raised During March 28, 2013, Public Meeting and Associated TVA Responses
2. TVA Nuclear Fleet Commercial Grade Dedication Recovery Project Action Plan Summary
3. List of Commitments

cc (w/Enclosures):

NRC Regional Administrator - Region II  
NRC Senior Resident Inspector - Browns Ferry Nuclear Plant  
NRC Senior Resident Inspector - Sequoyah Nuclear Plant  
NRC Senior Resident Inspector - Watts Bar Nuclear Plant

## ENCLOSURE 1

### NRC Questions Raised During March 28, 2013, Public Meeting And Associated TVA Responses

This enclosure provides the Tennessee Valley Authority (TVA) responses to NRC questions received during the public meeting held in Atlanta, Georgia, on March 28, 2013. The questions were not numbered during the public meeting, but are numbered now for future reference.

#### NRC Question 1:

During discussions regarding missed opportunities (Handout Slide 7) to identify programmatic weakness with the commercial grade dedication (CGD) process, TVA discussed a Quality Assurance (QA) audit (Audit SSA0204, dated February 14, 2003) where the audit included a review of TVA Procedure NEDP-8, Technical Evaluations for Procurement of Materials and Services, to the TVA Nuclear Quality Assurance Plan (NQAP) and not to regulatory requirements. It was later discovered that the audit baseline of regulatory requirements was not adequate for CGD in NEDP-8. In regard to the broader subject of audits, the NRC questioned whether supplier audits are based on meeting NQAP requirements or are they based on meeting regulatory requirements.

**TVA Response:** TVA did not address the broader subject of audits or the specific NRC staff question regarding supplier audits during the public meeting. The response to the NRC's question is provided below.

In accordance with TVA procedure QADP-3, *Supplier Audits, Surveys, Sources Surveillances and ASL Maintenance*, supplier audits are based on meeting the applicable TVA and NRC regulatory requirements.

TVA QA Vendor Audits & Services (VAS) performs all safety related supplier audits in accordance with checklists developed by the Nuclear Procurement Issues Committee (NUPIC) – a utility industry group. As a corrective action from the causal analysis performed by TVA QA, the NUPIC audit checklist evaluating CGD was verified to meet 10CFR21 regulatory requirements.

#### NRC Question 2:

During discussions regarding reasonable assurance (Handout Slide 13), the NRC asked if CGD items (parts) are procured from companies on the TVA approved suppliers list.

**TVA Response:** TVA procures items (parts) dedicated by suppliers which are listed on TVA's Acceptable Suppliers List (ASL). The commercial grade dedication process for these safety-related suppliers has been audited to 10CFR50, Appendix B/ANSI N45.2 and 10CFR21 using NUPIC audit checklists which have been verified to meet 10CFR21 requirements. These items (parts) are therefore furnished to TVA as safety-related items.

TVA also procures commercial grade items Quality Level 2 (QA-2) and TVA Procurement Engineering performs the CGD for use in a safety-related application. There are two scenarios in which this may be implemented. In both scenarios, TVA internal audits provide the oversight of the CGD process.

One scenario is that items are purchased commercially (QA-2) from suppliers on TVA's ASL in which TVA VAS would perform Commercial Grade (CG) surveys (Method 2) in

## ENCLOSURE 1

### NRC Questions Raised During March 28, 2013, Public Meeting And Associated TVA Actions

accordance with NUPIC commercial grade survey checklists to verify that certain procurement engineering-specified critical characteristics are controlled by the supplier.

The other scenario is that items are purchased commercially (QA-2) from non-surveyed companies (not on the ASL) and dedicated by methods (such as Method 1) other than a CG survey.

#### NRC Question 3:

During discussions regarding NPG Recovery Project Scope (Handout Slide 18), the NRC questioned the scope or meaning of "4600 unique items."

**TVA Response:** During the meeting TVA provided clarification by stating that the reference is to "4600 unique CATID items" and that each CATID has its own specific Procurement Data Sheet (PDS).

#### NRC Question 4:

During discussions regarding TVA's NPG Recovery Project (Handout Slide 20), the NRC asked at what point in the CGD package review process would a TVA Corrective Action Program (CAP) Problem Evaluation Report (PER) be initiated?

**TVA Response:** During the meeting, TVA indicated that a PER would be initiated when test results are not acceptable (at third "No" on Slide 20 flow chart). This is further illustrated on Handout Slide 22, Installed Item Review Process Diagram and on Slide 23, Inventory Release Process Diagram, that also indicate that a PER would be initiated when test results are not acceptable.

#### NRC Question 5:

During discussions regarding TVA's NPG Recovery Project (Handout Slide 20), the NRC asked if TVA has or will engage outside experts to audit/examine TVA's CGD Recovery Plan.

**TVA Response:** TVA NPG does not plan to engage outside experts to audit/examine TVA's CGD Recovery Plan. Sequoia Consulting Group, an industry expert on the CGD process, has been contracted by the TVA NPG to perform the review and upgrade (as needed) of the Technical Evaluations and Procurement Data Sheets for installed and in-stock components. This includes identifying weaknesses in the existing Technical Evaluations and Procurement Data Sheets and implementing those measures needed to provide reasonable assurance that the item will perform its intended safety function. This also includes reviews of documentation for any additional testing that may be required.

#### NRC Question 6:

During discussions regarding TVA's NPG Recovery Project (Handout Slide 20), the NRC asked if NPG will use a method to categorize findings similar to Watts Bar Nuclear (WBN) Unit 2, i.e., Category A, B, and C.

## ENCLOSURE 1

### NRC Questions Raised During March 28, 2013, Public Meeting And Associated TVA Actions

**TVA Response:** During the meeting, TVA indicated that the scope of work related to the TVA NPG CGD recovery project is expected to be much greater than the WBN Unit 2 scope of work. (At WBN Unit 2, each reviewed procurement package was assigned to one of the following categories:

Category A: The procurement package was acceptable and no further action is needed.

Category B: The procurement package needed administrative changes.

Category C: The procurement package needed technical revision to either the technical evaluation or the CGI acceptance plan. Revision of the procurement package for technical reasons may result in additional testing/inspection of the item, or in the worst case replacement of the item with a basic component.)

Although TVA NPG intends to distinguish procurement packages that are found to be acceptable from those procurement packages that need administrative or technical changes, NPG will use a method different than that used at WBN Unit 2, where groupings of items will be used depending on procurement times, suppliers or equipment types. Documented bases for various groupings will be available, and where individual procurement packages were reviewed, categorization similar to the WBN Unit 2 project will be used. TVA NPG will add Category D to the listing which will capture items that are either not used or no longer installed. Where multiple procurements spanning several years used multiple versions of a procurement data sheet, only the most recent version will be categorized, however all the currently installed lots will be addressed through a documented evaluation.

#### NRC Question 7:

During the public meeting discussion regarding TVA's NPG Recovery Project, the NRC asked whether TVA was aware of any program deficiencies regarding CGD prior to the 2011 NRC inspection.

**TVA Response:** During the public meeting, TVA indicated that it was not aware of any CGD programmatic issues prior to the 2011 NRC inspection. TVA indicated that individual CGD issues have been identified by NRC inspections or by TVA and resolved on a case-by-case basis.

A subsequent search of the TVA corrective action database (Maximo) was performed using keywords "commercial grade dedication" and "dedication." The search results identified twenty-five CGD related Problem Evaluation Reports (PERs) initiated between May 23, 2000 and April 5, 2011. A review of the twenty-five PERs found that individual CGD issues were identified and resolved on a case-by-case basis. TVA did not view these as posing a programmatic concern at the time they were identified.

ENCLOSURE 2

**TVA NUCLEAR POWER GROUP  
COMMERCIAL GRADE DEDICATION  
RECOVERY PROJECT ACTION PLAN SUMMARY**



# Nuclear Power Group

## Commercial Grade Dedication Recovery Project Action Plan Summary





# TVA NPG Commercial Grade Dedication Recovery Project Action Plan Summary

## 1.0 Purpose

The purpose of this document is to summarize the approach that the Tennessee Valley Authority (TVA) Nuclear Power Group is using to resolve deficiencies identified in TVA's commercial grade dedication program.

## 2.0 Overview

In February 2012, a Severity Level (SL) IV Non-Cited Violation (NCV) of 10 Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control," was identified at Watts Bar Unit 2 for failure to adequately incorporate 10 CFR Part 21 requirements for commercial grade dedication (CGD) into procedures, and for failing to establish measures for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of systems, structures, and components (SSCs). This resulted in multiple examples where CGD activities failed to adequately establish commercial grade items as basic components.

TVA's initial response to the issues identified at Watts Bar Unit 2 was not sufficiently comprehensive or timely. After further review, TVA realized the nature and significance of the NRC identified issues and is dedicating the necessary resources to thoroughly evaluate the issues across the operating fleet in order to reinforce the basis for ensuring that commercial grade items will perform their intended safety function.

## 3.0 Objective of Project

To verify through technical review and testing, when needed, that commercial grade dedication items installed or in inventory, will perform their intended safety function.

## 4.0 Project Scope and Process for Evaluation

The project scope includes a review and evaluation of all commercial grade (QA Level 2) items installed in a TVA operating nuclear plant or in TVA's current parts inventory that were procured using Technical Evaluations and Procurement Data Sheets prepared between September 1995 when significant changes were made to 10 CFR Part 21 and November 2011 when the TVA commercial grade dedication procedure was baselined to the requirements of 10 CFR Part 21.

The scope will be determined by a rigorous search of various TVA databases including legacy databases from older work management processes and supply chain processes as well as the existing work management, engineering and supply chain databases. These databases will be reviewed for content and for the time frame they apply. Experts will review these databases to ensure TVA has captured the scope of QL-2 items installed between September 1995 and November 2011 as well as any QL-2 items currently in inventory that requires verification of critical characteristics for acceptance. By using not only the work management data, but comparing that data to supply chain data, TVA will have high confidence that QL-2 items are identified and reviewed.

Figure 1 provides an overview of the Technical Evaluation and Procurement Data Sheet Review Process including the entry of identified gaps into the TVA corrective action program. Figure 2 provides an overview of the Installed Item Review Process including



## TVA NPG Commercial Grade Dedication Recovery Project Action Plan Summary

the identification of gaps and the entry of unacceptable test results into the TVA corrective action program. Figure 3 provides an overview of the Inventory Release Process including the identification of gaps and the entry of unacceptable test results into the TVA corrective action program.

The project scope will require completion of four distinct but related tasks:

- Evaluation and Disposition of Installed Commercial Grade Items
- Evaluation and Disposition of Commercial Grade Items in Inventory
- Preparation of Revised Technical Evaluations and Procurement Data Sheets
- CGD Program Enhancement

### 5.0 Roles and Responsibilities

- Senior Vice President, Nuclear Support, is the senior management sponsor for the Commercial Grade Dedication Recovery Project
- Vice President, Nuclear Licensing, is responsible for regulatory interface
- Recovery Project Manager reports to the Senior Vice President, Nuclear Support, and is responsible for development, implementation, and completion of Commercial Grade Dedication Recovery Project
- Project Lead for TVA - Corporate PEG Program Manager
  - Contracted Workforce will report to this individual
  - Responsible for ensuring the project is implemented correctly, on schedule and within budget
- Contracted Project Manager - This individual will be responsible for scheduling, coordinating, and implementing the recovery effort

In support of the Recovery Project:

- General Manager, TVA NPG Design Engineering, is responsible for governance of procurement engineering staff, functions and procedures that will be utilized to complete the commercial grade dedication recovery project.

### 6.0 Prioritization Scheme

The project will focus early in the effort on Commercial Grade Items currently installed in components that have the highest risk impacts in the plant Probabilistic Risk Assessments (PRA).

Components whose failure make the largest contributions to the overall core damage frequency (CDF) in the PRA models will be identified and used to focus early efforts on evaluation of Commercial Grade Items that have been installed in those components. The importance measure used will be Risk Achievement Worth (RAW), which is the factor that CDF increases if the component is failed.

Documentation associated with CGD items will be reviewed with a focus on the following attributes:

- Intended safety function of the item
- Applicable critical characteristics for acceptance

## TVA NPG Commercial Grade Dedication Recovery Project Action Plan Summary

- Satisfactory verification of the critical characteristics

Adequate documentation of the above attributes will be evaluated to verify that there is reasonable assurance that the CGD item will perform its intended safety function.

### 7.0 Summary of Evaluation Processes

#### A. Installed Items

Figure 1 provides a general diagram of the Technical Evaluation and Procurement Data Sheet Review Process. Figure 2 provides a general diagram of the Installed Item Review Process.

- TVA will evaluate CGD (QA Level 2) items installed in the operating plants from the date of issuance of revisions to 10 CFR 21 from September 1995 to November 2011 when revisions were made to TVA Procedure NEDP-8 to bring it into full compliance with regulatory requirements.
- Items will be grouped for evaluation using similar characteristics as follows:
  - By type – Where data such as installation specification testing is available which validates the critical characteristics for acceptance (CCA), (such as lug installation procedures and records) and a documented basis supports the grouping of like items as satisfying the CCA's
  - By Supplier – Where a long history of performance from a supplier and/or 'reverse' Method 2 validation may be used, supplier controls will be surveyed focusing on the period(s) of parts procurement to determine whether there is sufficient basis to credit the supplier controls (both present and past) as meeting the CCAs.
  - By time frame of procurement – In cases where material is routinely replaced by the preventive maintenance program, older procurements which have no residual installed base will be excluded from review for acceptability. Should past supplier controls be insufficiently documented, but present controls found acceptable, the older procurements will require more analysis.
  - Where such groupings are not feasible or there is insufficient basis to justify acceptance, more analysis and action will be taken for any installed items.
- TVA will have the groupings and the basis for groupings completed for the installed items by June 30 (see the Table of CGD Recovery Milestones in Section 9). As the analysis progresses, there may be adjustments to the groupings should there be additional knowledge gained through more in-depth reviews, but the scope of installed items will be well documented and bases developed for the entire QL-2 population currently installed in the TVA fleet upon completion of the project.
- The evaluations will determine whether an adequate basis exists and is properly documented for concluding that there is reasonable assurance that the installed items will perform their safety functions.

## TVA NPG Commercial Grade Dedication Recovery Project Action Plan Summary

- Where gaps in documenting a basis for acceptance are identified, actions to correct those gaps will be taken as necessary. The actions include:
  - Performance of additional testing;
  - Review of post installation or periodic testing (e.g. surveillance testing, in-service testing, predictive maintenance activities or other operational tests);
  - Review of operating history – where equipment operations challenge critical characteristics sufficiently, operating history will be used as a partial basis for satisfying critical characteristics for acceptance;
  - Use of commercial grade supplier surveys – in some cases, suppliers may have documented controls which satisfy CCAs for past procurements;
  - Determining an appropriate sample of a population of installed items and removing them from the plant for further testing;
  - Consideration of supplier performance history (e.g. Method 4) coupled with one or more of the above actions and;
  - Determination of actual safety function by specific item - in some cases, TVA purchased QL-2 items in which the specific piece-part may not have an actual safety function and can be declassified.
- Removal and replacement of installed items may be used in lieu of completion of a full evaluation should replacement be the more cost effective resolution path as compared to completion of a full evaluation. In these cases, TVA will review and, as required, revise Technical Evaluations and Procurement Data Sheets for CGD (QA Level 2) items that will be used for procurement of replacement items.
- Any items that have been reviewed and determined to be incapable to performing their safety functions will be entered into the Corrective Action Program and an operability determination or functionality assessment will be performed.

### B. Items in Inventory

Figure 1 provides a general diagram of Technical Evaluation (TE) and Procurement Data Sheet (PDS) Review Process. Figure 3 provides a general diagram of the Inventory Release Process.

#### Summary of the TVA Inventory Release Process:

- On January 14, 2013, TVA placed QA Level 2 CGD items in inventory, as of that date, on hold. For these Commercial Graded Dedicated (CGD) items (QA Level 2) that were procured using TE's and PDS's prepared between September 1995 and November 2011, TVA will perform evaluations to determine and document whether or not the CGD activities as performed during item procurement provide reasonable assurance that these items in inventory will perform their safety functions once installed.

## TVA NPG Commercial Grade Dedication Recovery Project Action Plan Summary

- Should the evaluation determine that the prior dedication activity was not sufficient, additional CGD actions will be identified and performed as required to provide and document the basis for reasonable assurance that the items will perform their safety functions prior to item release for installation. These actions may include revised Technical Evaluations, additional testing and inspection requirements (pre- or post-installation), use of commercial grade surveys, and consideration of item/supplier performance history as appropriate.
- Disposal and replacement of inventory may be used in lieu of completion of a full evaluation should replacement be the more cost effective resolution path as compared to completion of a full evaluation.
- Technical Evaluations and Procurement Data Sheets will be revised for CGD (QA Level 2) items that require additional CGD actions as appropriate prior to procurement of any additional material for inventory or for direct use in the plants.
- Any items in inventory that are found to be unacceptable for use will be removed from inventory and, as needed, replaced with items procured to revised Technical Evaluation and Procurement Data Sheet requirements.
- Any items that have been reviewed and determined to be incapable of performing their safety functions will be entered into the Corrective Action Program and an operability determination or functionality assessment will be performed if the item is also installed.

### C. Preparation of Revised Technical Evaluations and Procurement Data Sheets

Technical Evaluation (TE) and Procurement Data Sheets (PDS) will be revised to the level of regulatory acceptability in order to continue with future procurements of the items. Such revisions deferred where the frequency of use is very low (e.g. more than five years) until actually required for future procurements.

## 8.0 Commercial Grade Dedication Program Enhancement

The Commercial Grade Dedication (CGD) program will be updated to improve efficiency and effectiveness.

Activities will be focused on:

1. Revising the Procurement Engineering governing procedure, NEDP-8;
2. Benchmarking other Utilities for industry best practices and staffing levels;
3. Revising the software tool utilized by PEG to prepare CGD evaluations;
4. Providing training to TVA Procurement Engineers and;
5. Performing annual self assessments

## TVA NPG Commercial Grade Dedication Recovery Project Action Plan Summary

### 9.0 Commercial Grade Dedication Recovery Project Milestones

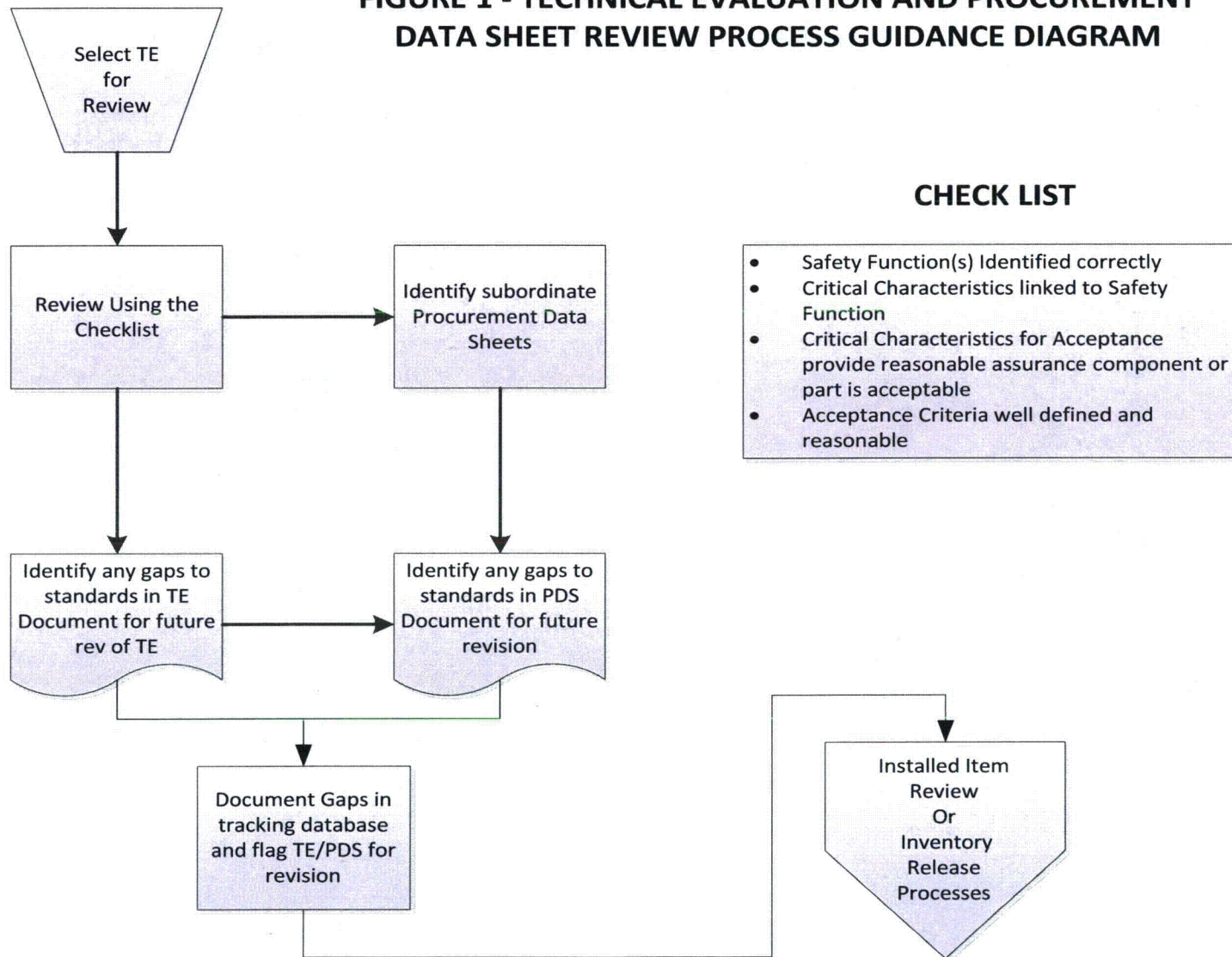
**Table of CGD Recovery Milestones**

| <b>Milestone #</b> | <b>Milestone Name</b>   | <b>Description</b>   | <b>Completion Date</b>   |
|--------------------|---|--|--|
| 1                  | Place QL-2 Inventory on Hold  | QL-2 inventory has been placed on administrative hold pending an analysis of the required dedication documentation.  | Completed January 14, 2013   |
| 2                  | Issue Detailed Project Plan That Will Describe Installed Item Grouping and Strategy Determination | The detailed project plan will develop groupings by supplier, type, time frame of procurement, replacement frequency as appropriate for documenting reasonable assurance the installed items satisfy critical characteristics for acceptance.  | June 30, 2013  |
| 3                  | Execute Installed Item Evaluations  | Review and document acceptability of installed item populations. Provide bases by groups for acceptability. Document any items which fail to meet CCAs in TVA corrective action program.   | December 31, 2014  |
| 4                  | Periodic Status Reporting   | Provide Quarterly Updates to the NRC starting in July 2013 on findings. This update will include any failures found in either the installed equipment review or warehouse inventory review along with an evaluation of safety significance of such failures for the installed items. | December 31, 2014 with first report due July 31, 2013 and quarterly thereafter until completion. |

### 10.0 Documentation

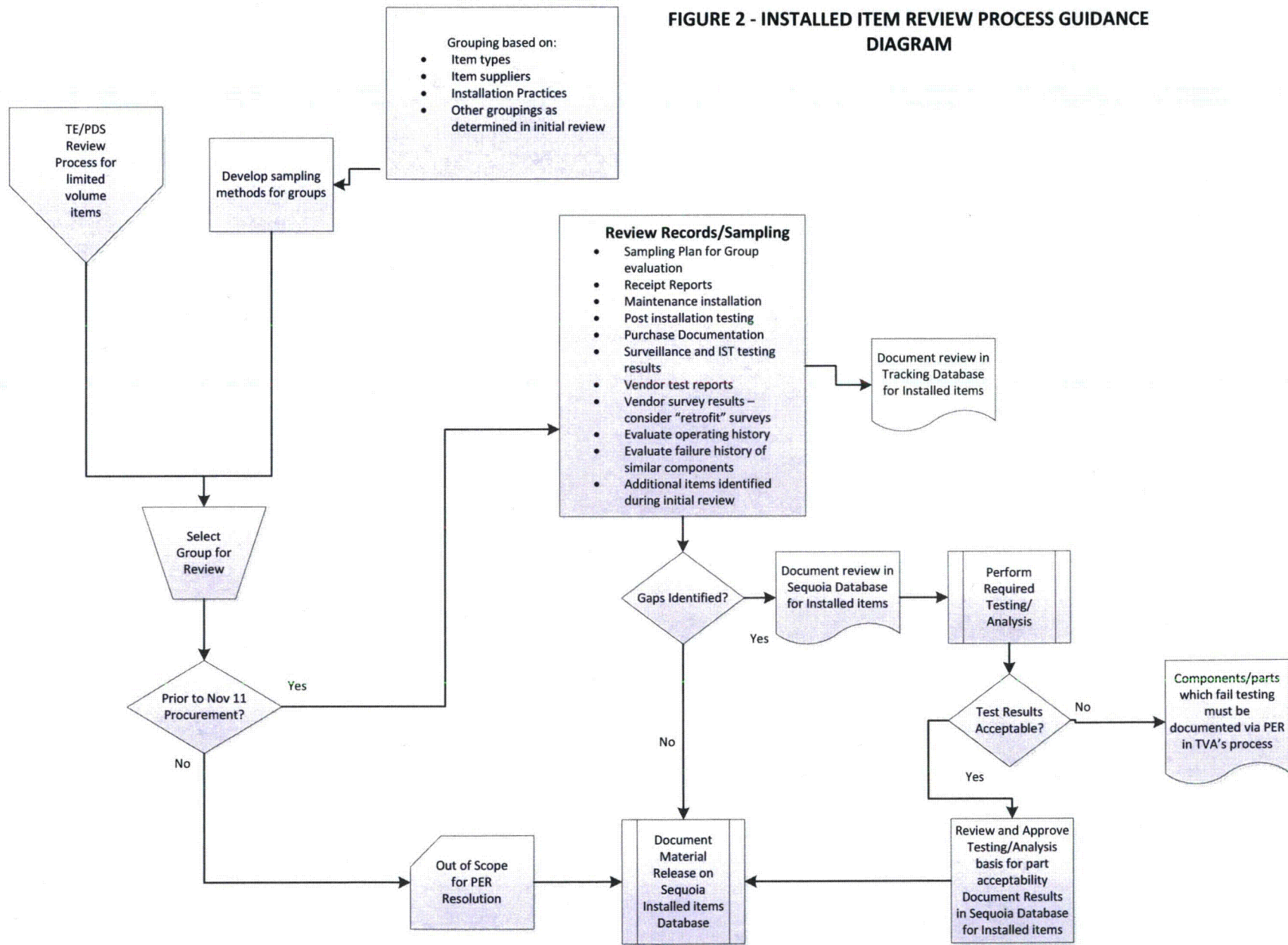
Documentation will be generated in the Automated Procurement Engineering Data System (APEDS) program to address applicable Commercial Grade Item evaluations, releases and/or acceptance. Pertinent documentation will be filed in the APEDS program for retention.

**FIGURE 1 - TECHNICAL EVALUATION AND PROCUREMENT  
DATA SHEET REVIEW PROCESS GUIDANCE DIAGRAM**



# TVA NPG Commercial Grade Dedication Recovery Project Action Plan Summary

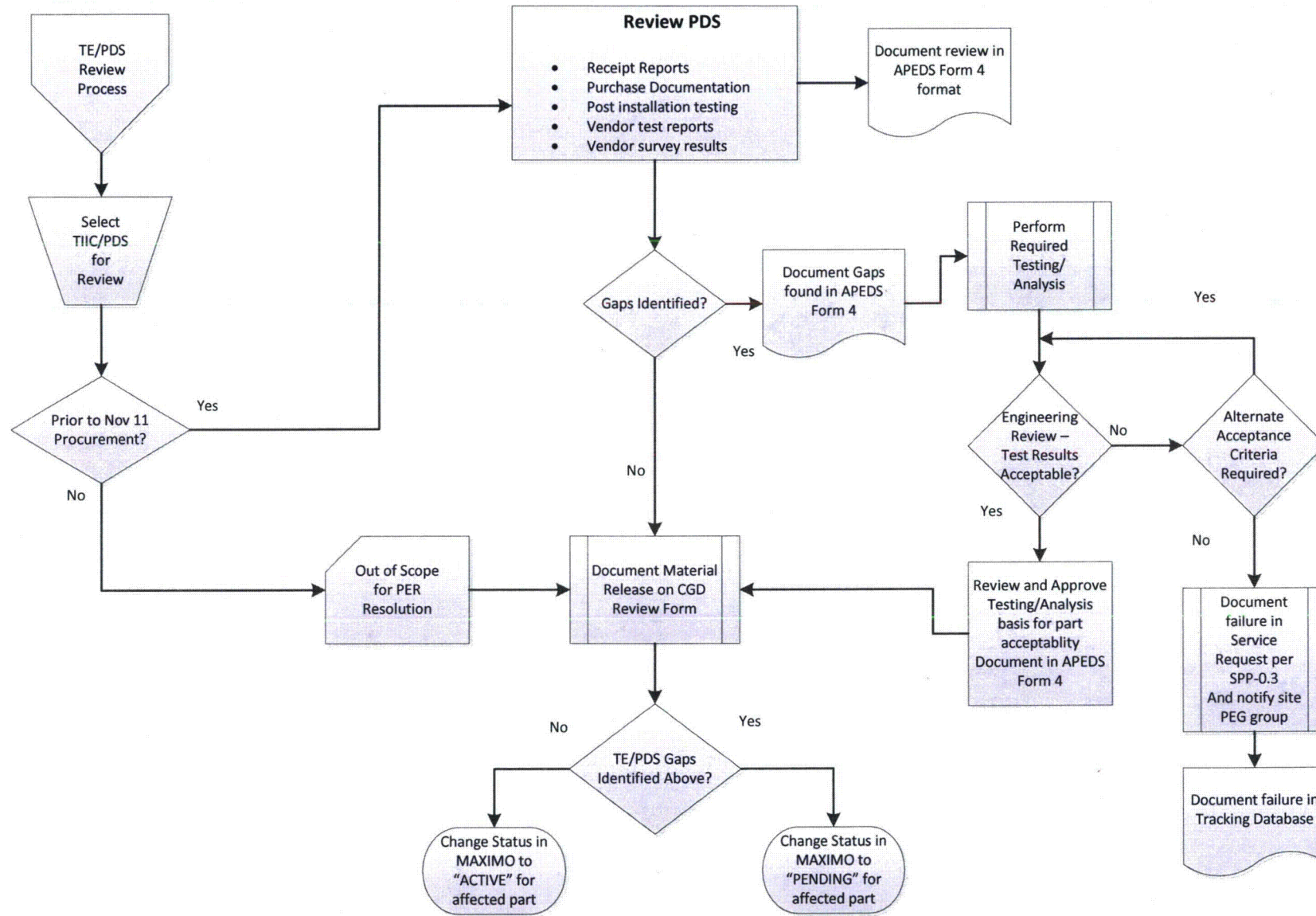
**FIGURE 2 - INSTALLED ITEM REVIEW PROCESS GUIDANCE  
DIAGRAM**





# TVA NPG Commercial Grade Dedication Recovery Project Action Plan Summary

**FIGURE 3 - INVENTORY RELEASE PROCESS GUIDANCE DIAGRAM**



## **ENCLOSURE 3**

### **LIST OF COMMITMENTS**

1. TVA will complete a comprehensive evaluation of commercial grade dedicated items installed between September 1995 and November 2011 for the operating fleet, and correct any identified deficiencies by December 31, 2014.
2. TVA will provide the NRC with periodic written updates regarding progress of the project by the last day of July, October, January, and April of each year until the project is completed, beginning with the first written report to be filed by July 31, 2013.