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

CNL-14-195

October 31, 2014

10 CFR 50.4

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: **The Tennessee Valley Authority (TVA) Nuclear Power Group Commercial Grade Dedication Recovery Project - October 2014 Status Report**

Reference:

1. TVA letter to NRC, "Additional Information Regarding March 28, 2013, Public Meeting With NRC Regarding The Tennessee Valley Authority's (TVA) Commercial Grade Dedication Recovery Project," dated April 30, 2013 (ML13123A163)

2. TVA letter to NRC, "The Tennessee Valley Authority (TVA) Nuclear Power Group Commercial Grade Dedication Recovery Project Plan - July 2013 Status Report," dated July 31, 2013 (ML13220A102)

3. TVA letter to NRC, "The Tennessee Valley Authority (TVA) Nuclear Power Group Commercial Grade Dedication Recovery Project - October 2013 Status Report," dated October 31, 2013 (ML13309A747)

4. TVA letter to NRC, "The Tennessee Valley Authority (TVA) Nuclear Power Group Commercial Grade Dedication Recovery Project - January 2014 Status Report," dated January 31, 2014 (ML14038A139)

5. TVA letter to NRC, "The Tennessee Valley Authority (TVA) Nuclear Power Group Commercial Grade Dedication Recovery Project - April 2014 Status Report," dated April 30, 2014 (ML14126A843)

6. TVA letter to NRC, "The Tennessee Valley Authority (TVA) Nuclear Power Group Commercial Grade Dedication Recovery Project - July 2014 Status Report," dated July 31, 2014 (ML14212A748)

The purpose of this letter is to provide the Nuclear Regulatory Commission (NRC) staff with the October 2014 Commercial Grade Dedication (CGD) Recovery Project Status Report. Previous status reports were provided in References 2 through 6.

In Enclosure 2 of the Reference 1 letter, TVA provided the NRC with a TVA Nuclear Power (NPG) Group CGD Recovery Project Action Plan Summary that included CGD Recovery Project milestones. In milestone 4, TVA stated that quarterly updates would be provided to the NRC starting in July 2013 and that the updates would 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.

Based on progress made to date, the TVA Nuclear Power Group CGD Recovery Project is on track to meet the December 2014 commitment date for project completion. In addition, no issues have been identified that resulted in declaring plant equipment to be inoperable.

The enclosure to this letter provides the TVA Nuclear Power Group CGD Recovery Project - October 2014 Status Report.

There are no new regulatory commitments contained in this letter. Should you have any questions, please contact John Laffrey at (423) 751-3262.

Respectfully,

J. W. Shea
Vice President, Nuclear Licensing

Enclosure: Tennessee Valley Authority (TVA) Nuclear Power Group Commercial Grade Dedication Recovery Project - October 2014 Status Report

cc (Enclosure):

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
NRR Project Manager - Browns Ferry Nuclear Plant
NRR Project Manager - Sequoyah Nuclear Plant
NRR Project Manager - Watts Bar Nuclear Plant

ENCLOSURE

Tennessee Valley Authority (TVA) Nuclear Power Group
Commercial Grade Dedication Recovery Project - October 2014 Status Report

INTRODUCTION:

During a public meeting with the Nuclear Regulatory Commission (NRC) staff on March 28, 2013, TVA described a broad set of actions being taken by the TVA Nuclear Power Group (NPG) to address commercial grade dedication (CGD) program issues identified by the NRC in Watts Bar Unit 2 construction-related Integrated Inspection Report 05000391/2011607, dated September 30, 2011, and Integrated Inspection Report 05000391/2011610, dated February 3, 2012. To further address commercial grade dedication program issues, TVA made a commitment to complete a comprehensive evaluation of commercial grade dedication items installed between September 1995 and November 2011 for the operating fleet, and correct any identified deficiencies by December 31, 2014.

In a letter to the NRC dated July 1, 2013,[1] TVA informed the staff that TVA Nuclear Power Group Commercial Grade Dedication Recovery Project Plan was approved for implementation and briefly described the plan. The CGD Recovery Project Plan describes the evaluation process being used to determine whether an adequate basis exists, is documented, and provides reasonable assurance that a commercial grade item to be used as a basic component will perform its intended safety function. The plan establishes the scope of the project, identifies the number of specific items that must be evaluated, and describes the grouping of items for evaluation by type, supplier, and time frame of procurement. The plan also describes documentation that TVA will generate during the evaluation process for items that are installed and/or currently in inventory; for items that are obsolete and through regular preventive maintenance are no longer installed in safety related applications; and for inventory items that have not been purchased or installed since Part 21, Reporting of Defects and Noncompliance, of the Code of Federal Regulations was amended in 1995.

From April 2013 to April 2014, the CGD Recovery Project Team identified 22,340 unique Catalog Identifiers (CATIDs) that have been generated for CGD items across the TVA Nuclear Power Group Fleet since September 1995. Of this population, 17,343 unique CATIDs have been identified to be either not purchased or not installed. Therefore, the remaining 4,997 unique CATIDs have been either purchased or installed in a TVA nuclear plant and will require evaluation, as described in the CGD Recovery Project Plan.

The CGD Recovery Project is evaluating the unique CATIDs in groups where possible. In many cases, several CGD packages have been generated for the same unique CATID due to the number of years of plant operations under evaluation.

The status provided below documents the progress to date based on accounting for the applicable number of unique CATIDs.

[1] TVA letter to NRC, "The Tennessee Valley Authority (TVA) Nuclear Power Group Commercial Grade Dedication Recovery Project Plan," dated July 1, 2013 (ML13189A133)

ENCLOSURE

Tennessee Valley Authority (TVA) Nuclear Power Group
Commercial Grade Dedication Recovery Project - October 2014 Status Report

PROGRESS TO DATE:

As of April 4, 2014, the TVA CGD Recovery Project Weekly Report indicated that from a population of 17,343 CATIDs that were either not purchased or not installed, 17,343 CATIDs have been verified via an additional data search to not exist in inventory or in the operating units. This completes the verification and documentation of CATIDs that were either not purchased or not installed.

As of October 12, 2014, from a population of 4,997 CATIDs that were purchased and are either in inventory or installed, 4639 CATIDs have been assessed against project plan review criteria, including the critical characteristics for acceptance (CCA), and were found to be acceptable. Of the remaining 358 CATIDs, there are 89 that require testing or analyses and 269 that have been assessed against project plan review criteria, including the CCA, and were found to be acceptable with the exception of seismic CCA information.

During the effort to evaluate commercially dedicated parts against the applicable CCA, an additional gap was identified where critical characteristics to confirm seismic qualification/suitability were not adequately documented. This gap can be characterized as failing to adequately document the equipment seismic/structural qualification of the replacement items in accordance with TVA Nuclear Engineering Department seismic procedures and design standards. The assessment of seismic CCA information for seismic sensitive CATIDs is ongoing. Additional actions and resources are being applied to address the additional scope of seismic CCA information.

Based on progress made to date, the TVA Nuclear Power Group Commercial Grade Dedication Recovery Project is on track to meet the December 2014 commitment date for project completion.

UPDATE ON PREVIOUSLY IDENTIFIED ISSUES:

The status of previously identified testing failures is summarized in the Table below. A testing failure is initially documented in a Service Request (SR), then further documented and evaluated in a Problem Evaluation Report (PER), under the corrective action program.

PREVIOUSLY IDENTIFIED TESTING FAILURES						
Initial Status Report Date	**SR/PER Number**	**CATID**	**Item Description**	**Failure Description**	**Disposition**	**Status (Open/ Closed)**
July 31, 2013	SR 755044 (PER 762570)	CAE345C	Overload Heaters	Failed current carrying due to incorrect test current	Purchased new heaters for testing to revised criteria. All items passed testing.	Closed
July 31, 2013	SR 755092 (PER 762593)	BKG441M	1-1/4 Inch Copper Couplings	Failed dimensional test - use of single measurement point	Used three point measurement technique & additional analyses to accept Items.	Closed

ENCLOSURE

Tennessee Valley Authority (TVA) Nuclear Power Group
Commercial Grade Dedication Recovery Project - October 2014 Status Report

PREVIOUSLY IDENTIFIED TESTING FAILURES						
Initial Status Report Date	**SR/PER Number**	**CATID**	**Item Description**	**Failure Description**	**Disposition**	**Status (Open/ Closed)**
October 31, 2013	PER 793398 PER 826788	BDH517E	Fuses 20A, 250V Time Delay	Failed current clearing testing by 25% longer than criteria.	Based on EPRI TR-017218, Revision 1, *Guideline for Sampling in the Commercial-Grade Item Acceptance Process*, the remaining inventory was scrapped. No record of safety related (SR) application was identified. However, if installed in SR application, the 25% longer clearing time would not degrade the component function during accident scenarios. PER 885910 to address additional 10 CFR 21 considerations.	Closed
October 31, 2013	PER 794799 PER 821184	BXA282G	Pressure Switch	Failed acceptance criteria for configuration, operating response, repeatability, and weight.	Defective pressure switch was scrapped. PER 885910 to address additional 10 CFR 21 considerations.	Closed
October 31, 2013	PER 793399 PER 821992	CKA398K	Brass Tubing Tee Fittings	Failed threading testing.	Installed fitting acceptable based on completed conditional dedication. PER 885910 to address additional 10 CFR 21 considerations.	Closed
October 31, 2013	PER 784385 PER 793529 PER 828658	CKJ806N	Hydraulic Fluid	Failed flash point test.	Revised flash point criteria to lower value. Material acceptable for end use applications.	Closed
January 31, 2014	PER 827195	CRE543B	Breather Caps	Failed testing criteria for material type.	Material dispositioned as acceptable with no effect on operability.	Closed
January 31, 2014	PER 827194	CRF195B	Vent Caps	Failed testing criteria for material and dimension.	Material dispositioned as acceptable with no effect on operability. Additional dimensional inspection designated for this item.	Closed
January 31, 2014	PER 821151	BJV743J	Overload Heaters	Failed testing criteria for resistance and dimensions.	Failed criteria inconsequential to overload heater operation. Pre-installation testing verifies proper operation. PER 885910 to address additional 10 CFR 21 considerations.	Closed

ENCLOSURE

Tennessee Valley Authority (TVA) Nuclear Power Group
Commercial Grade Dedication Recovery Project - October 2014 Status Report

PREVIOUSLY IDENTIFIED TESTING FAILURES						
Initial Status Report Date	**SR/PER Number**	**CATID**	**Item Description**	**Failure Description**	**Disposition**	**Status (Open/ Closed)**
January 31, 2014	PER 826067	BVT390J	Cable Splices	Failed testing criteria for wire size dimensions.	Deficient parts would have been self-revealing during installation. Material will be scrapped. PER 887333 to address additional 10 CFR 21 considerations.	Closed
January 31, 2014	PER 826791	AWT096Y	Fuses 0.125A	Failed testing criteria for current carrying capacity.	1 of 30 fuses tested did not meet current carrying capability - fuse opened before thermal stability was reached. If installed, this fuse would have likely failed during normal operation and/or surveillance testing. PER 885910 to address additional 10 CFR 21 considerations.	Closed
January 31, 2014	PER 828735	BAG502L	Fuses 1.6A	Failed testing criteria for current clearing time.	Test results reviewed and accurate. No record of safety related (SR) application was identified. Work orders initiated to replace non-safety related applications. Remaining inventory scrapped per EPRI TR-017218, Revision 1, guidance. PER 932364 to address additional 10 CFR 21 considerations.	Closed
January 31, 2014	PER 830725	BVC946R	Terminal Lugs	Failed testing criteria for material type.	Based on new information, item meets manufacturer's specifications. Manufacturing process involves copper barrel material and brass spade material. Mixed material manufacturing was not apparent based on initial review of product data sheets. New PER 905272 was generated to review test results and revise procurement documents to correct material type.	Closed
January 31, 2014	PER 830726	BYB188W	Terminal Lugs	Failed testing criteria for material type.	Test method revised based on manufacturer's specifications. Material retested and verified to meet criteria. Material acceptable to revised package.	Closed

ENCLOSURE

Tennessee Valley Authority (TVA) Nuclear Power Group
Commercial Grade Dedication Recovery Project - October 2014 Status Report

PREVIOUSLY IDENTIFIED TESTING FAILURES						
Initial Status Report Date	**SR/PER Number**	**CATID**	**Item Description**	**Failure Description**	**Disposition**	**Status (Open/ Closed)**
January 31, 2014	PER 823813	BYM865Q	Terminal Lugs	Failed testing criteria for material type.	Revised material attributes for copper concentration and item found acceptable.	Closed
January 31, 2014	PER 825115	CFF597C	Polyethylene Tubing	Failed testing criteria for pressure integrity.	Retested tubing to proper test pressure and found acceptable.	Closed
January 31, 2014	PER 826424	BYL296B	Insulating Tape	Failed testing criteria for tensile strength.	Initial criteria not critical. Revised criteria and retested for tape thickness and di-electric strength. Item found acceptable.	Closed
January 31, 2014	PER 820855	CCA611R	Pulley Bushings	Failed testing criteria for material type.	Incorrect material specified based on current manufacturing. Material acceptable to originally supplied material type.	Closed
January 31, 2014	PER 825131	BQX704E	Mandrel Pop Rivets	Failed testing criteria for material type.	Incorrect material specified for mandrel. Revised material type and tested additional samples for acceptance.	Closed
January 31, 2014	PER 823816	CPV360D	Cable Splices	Failed testing criteria for material type.	Package revised to test material to the applicable ASTM standard versus providing minimum copper content for material type. Material tested to more specific criteria and found acceptable.	Closed
January 31, 2014	PER 828659	CEH294T	Pressure Switch	Failed testing criteria for weight.	Incorrect data sheet in package. Revised package to include correct data sheet.	Closed
January 31, 2014	PER 823818	BRN013X	Resistors	Failed testing criteria for dimensions.	Incorrect dimensional tolerances applied. Revised CGD package and amended dimensional test report for acceptance.	Closed
January 31, 2014	PER 824184	CFP436V	Brass Tubing Unions	Failed testing criteria for material type.	Revised criteria to brass alloy. A brass alloy plus pressure testing supported acceptance.	Closed
January 31, 2014	PER 821083	CGX850P	Brass Tubing Unions	Failed testing criteria for material type.	Revised criteria to brass alloy. A brass alloy plus pressure testing supported acceptance.	Closed

ENCLOSURE

Tennessee Valley Authority (TVA) Nuclear Power Group
Commercial Grade Dedication Recovery Project - October 2014 Status Report

PREVIOUSLY IDENTIFIED TESTING FAILURES						
Initial Status Report Date	**SR/PER Number**	**CATID**	**Item Description**	**Failure Description**	**Disposition**	**Status (Open/ Closed)**
April 30, 2014	PER 845971	CFB485C	HFA Relay	Failed seismic criteria.	Evaluate and document resolution of the non-conformance of 18 HFA relays. An additional relay from the lot tested to application specific criteria and passed seismic criteria, resolving the non-conformance issue.	Closed
April 30, 2014	PER 842727	BVT503M	Resistor	Failed dimensional criteria.	Error occurred when selecting the critical characteristic dimension for resistor length and lead length. Resistors passed revised criteria.	Closed
April 30, 2014	PER 842713	BLA352D	30 Amp Fuse	Failed current clearing time.	Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the fuse lot.	Closed
April 30, 2014	PER 842712	BLA345A	200 Amp Fuse	Failed current clearing time.	Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the fuse lot.	Closed
April 30, 2014	PER 842728	CFD755Y	35 Amp fuse	Failed current clearing time.	Incorrect criteria initially specified. PEG Package revised. Additional testing provided acceptable results.	Closed
April 30, 2014	PER 842703	BWA522 W	1.8 microfarad Capacitor	Failed leakage current and working voltage.	Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the capacitor lot.	Closed
April 30, 2014	PER 853916	CAC064M	Resistor	Failed dimensional criteria.	Incorrect tolerance revised. Test report amended resulting in acceptance of the resistor lot.	Closed
April 30, 2014	PER 842702	APD135T	Access Valve	Failed dimensional criteria.	Dimensional criteria revised based on end use considerations. Re-inspection of entire lot to revised criteria resulted in acceptance of the lot.	Closed
April 30, 2014	PER 860042	ADM954A	35 Amp Fuses	Failed current clearing time.	No material installed. Remaining material scrapped to prevent issue to the plant. PER 887333 to address additional 10 CFR 21 considerations.	Closed

ENCLOSURE

Tennessee Valley Authority (TVA) Nuclear Power Group
Commercial Grade Dedication Recovery Project - October 2014 Status Report

PREVIOUSLY IDENTIFIED TESTING FAILURES						
Initial Status Report Date	**SR/PER Number**	**CATID**	**Item Description**	**Failure Description**	**Disposition**	**Status (Open/ Closed)**
April 30, 2014	PER 845579	BLN398N	#22 AWG to #14 AWG Splice	Failed measurement indicating a mixed bin (reducing 22 AWG to 14 AWG splice and non-reducing 14 AWG to 14 AWG splice mixed together).	Inspection verified a mixed bin of material. 100% inspection performed to remove deficient material and scrap. Remaining material sent to lab for physical inspection. PER 885910 to address additional 10 CFR 21 considerations.	Closed
April 30, 2014	PER 842128	CVD369R	Exhaust Valves	Failed volumetric flow rate.	Evaluate test results to determine potential operability impact on four components with higher exhaust rate requirements than the test results. PER 887333 to address additional 10 CFR 21 considerations.	Open
April 30, 2014	PER 862599	CFM395R	Sleeve Fitting	Failed dimensional criteria.	Incorrect dimensional tolerances specified and dimensions recorded beyond significant digits. Material re-inspected to correct dimensional tolerances and accepted. PER 932364 to address additional 10 CFR 21 considerations.	Closed
April 30, 2014	PER 844628	CAA979N	Overload Relay	Failed contact resistance – open circuit.	The failure occurred during testing and failed as "open" contact, therefore, the relay is no longer viable for use. This condition would be self revealing during the installation and testing process. Initially, a quantity of 10 relays from the lot of 19 were tested, with one resulting failure. Based on the one failure, the entire lot will be tested. PER 932364 to address additional 10 CFR 21 considerations.	Closed
April 30, 2014	PER 841713 PER 892013	CGJ609B	Resistor	Failed dimensional criteria.	The resistor length and lead length dimensional deficiencies were found acceptable.	Closed

ENCLOSURE

Tennessee Valley Authority (TVA) Nuclear Power Group
Commercial Grade Dedication Recovery Project - October 2014 Status Report

PREVIOUSLY IDENTIFIED TESTING FAILURES						
Initial Status Report Date	**SR/PER Number**	**CATID**	**Item Description**	**Failure Description**	**Disposition**	**Status (Open/ Closed)**
April 30, 2014	PER 848255	BYL400P	8 Amp Fuse	Failed dimensional criteria.	Material found acceptable based on new tolerance information. CGD documents revised and material accepted. PER 885910 to address additional 10 CFR 21 considerations.	Closed
April 30, 2014	PER 845243	CBB278A	Resistor	Failed power rating of resistor.	The resistors are normally used in panel light indicators, where the resistors drop the circuit voltage to a value appropriate for the indicating lamp. Failed lots were scrapped and one lot found acceptable. Procurement documents found acceptable for future purchases. PER 887333 to address additional 10 CFR 21 considerations.	Closed
April 30, 2014	PER 867205	BVA247Y	7.5 Amp Fuse	Failed current clearing time.	Expanded sample testing, per EPRI TR-017218-R1, resulted in an additional fuse failing acceptance criteria. PER 891992 was issued to document and evaluate issue. Issue history evaluated for installed applications. Inventory material not acceptable and scrapped. Testing criteria and procurement documents determined to be acceptable for new procurement.	Closed
April 30, 2014	PER 867221	BDL448P	700 Amp Fuse	Failed current clearing time.	New acceptance criteria established based on UL 248-1. Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the fuse lot.	Closed
April 30, 2014	PER 867220	BYF689H	15 Amp Fuse	Failed current clearing time.	Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the fuse lot.	Closed

ENCLOSURE

Tennessee Valley Authority (TVA) Nuclear Power Group
Commercial Grade Dedication Recovery Project - October 2014 Status Report

PREVIOUSLY IDENTIFIED TESTING FAILURES						
Initial Status Report Date	**SR/PER Number**	**CATID**	**Item Description**	**Failure Description**	**Disposition**	**Status (Open/ Closed)**
April 30, 2014	PER 863778	BYV699G	0.5 Amp Fuse	Failed current clearing time	Inventory material not acceptable and scrapped. Testing criteria and procurement documents determined to be acceptable for new procurement. PER 885910 to address additional 10 CFR 21 considerations.	Closed
July 31, 2014	PER 842729	CHB326L	Check Valve	Failed material type.	Host component determined to be QA-3 and material downgraded and scrapped.	Closed
July 31, 2014	PER 882147	BLR987K	4 Amp Fuse	Failed current clearing time.	Initial failure due to incorrect criteria. Additional sample testing to revised criteria resulted in acceptable results.	Closed
July 31, 2014	PER 899140	ARB566W	200 Amp Fuse	Failed current carrying capacity.	Material not acceptable for plant use. History search identified no material installed in safety related components.	Closed
July 31, 2014	PER 896388	CGJ885H	Resistor	Failed resistance and power rating.	Material not acceptable for plant use and scrapped. No changes identified for procurement documents.	Closed
July 31, 2014	PER 882153 PER 901153	CFJ418P	10 Amp Fuse	Failed dimensional criteria.	Fuse diameter measuring 0.001" too small requires final review and material disposition.	Closed
July 31, 2014	PER 882164 PER 899964	CBT088Q	1 Amp Fuse	Failed dimensional criteria	Fuse length measuring too long requires final review and disposition. Issue history verification required for operability assessment.	Open
July 31, 2014	PER 882141 PER 899965	ADM954A (SQN Site)	35 Amp Fuse	Failed current clearing time.	Expanded sample resulted in additional material failure. Evaluation of failure, test criteria and issue history required. PER 932364 to address additional 10 CFR 21 considerations.	Open
July 31, 2014	PER 880803	CDC572Q	50 Amp Fuse	Failed voltage rating.	Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the fuse lot.	Closed

ENCLOSURE

Tennessee Valley Authority (TVA) Nuclear Power Group
Commercial Grade Dedication Recovery Project - October 2014 Status Report

PREVIOUSLY IDENTIFIED TESTING FAILURES						
Initial Status Report Date	**SR/PER Number**	**CATID**	**Item Description**	**Failure Description**	**Disposition**	**Status (Open/ Closed)**
July 31, 2014	PER 880819	BLA425C	1 Amp Fuse	Failed current carrying capacity and cracked ferrules.	Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the fuse lot. Material with cracked ferrules dispositioned to be scrapped.	Closed
July 31, 2014	PER 882129 PER 898433	BLA414H	1.25 Amp Fuse	Failed current clearing time.	Expanded sample resulted in additional material failure. Material has been scrapped. Procurement documents have been cancelled and Item is designated as obsolete.	Closed
July 31, 2014	PER 900197	BYL598T (BFN Site)	30 Amp Fuse	Failed dimensional criteria.	Fuse diameter measuring 0.001" too large requires final review and material disposition. Based on review and application of revised tolerance, the material is acceptable	Closed
July 31, 2014	PER 885235 PER 896391	BKY581W	1 Amp Fuse	Failed current clearing time.	Expanded sample resulted in additional material failure. Material not acceptable for plant use and scrapped. No changes identified for procurement documents.	Closed
July 31, 2014	PER 895583	AEY065C	1.25 Amp Fuse	Failed current clearing time.	Evaluation of issue history completed. Final evaluation of failure and test criteria required.	Open
July 31, 2014	PER 882169	BHQ577Y	0.25 Amp Fuse	Failed current clearing time.	Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the fuse lot.	Closed
July 31, 2014	PER 882149	BRE028R	20 Amp Fuse	Failed current clearing time.	Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the fuse lot.	Closed
July 31, 2014	PER 882150	CET176J	1.6 Amp Fuse	Failed current clearing time.	Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the fuse lot.	Closed
July 31, 2014	PER 882168	BBR516K	5 Amp Fuse	Failed current carrying capacity.	Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the fuse lot.	Closed

ENCLOSURE

Tennessee Valley Authority (TVA) Nuclear Power Group
Commercial Grade Dedication Recovery Project - October 2014 Status Report

PREVIOUSLY IDENTIFIED TESTING FAILURES						
Initial Status Report Date	**SR/PER Number**	**CATID**	**Item Description**	**Failure Description**	**Disposition**	**Status (Open/ Closed)**
July 31, 2014	PER 885242 PER 900219	CJD815L	60 Amp Fuse	Failed current carrying capacity and commercial failure	Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the fuse lot. Remaining PER actions to review procurement requirements and dispositions failed material from a commercial perspective.	Closed
July 31, 2014	PER 895584	CHQ955H	1100 Amp Fuse	Failed current clearing time.	Material not acceptable for plant use. History search identified no material installed in safety related components. Final action to review test requirements and procurement documents.	Open
July 31, 2014	PER 885244 PER 896395	BKY793D	60 Amp Fuse	Failed current clearing time.	Material not acceptable for plant use and scrapped. No changes identified for procurement documents.	Closed
July 31, 2014	PER 880809	BTT498Q	50 Amp Fuse	Failed voltage rating.	Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the fuse lot.	Closed
July 31, 2014	PER 888324 PER 912990	BEE283N	30 Amp Fuse	Failed current carrying capacity.	Material not acceptable for plant use. History search identified no material installed in safety related components. Final action to review test requirements and procurement documents.	Open
July 31, 2014	PER 899963	BYL598T (SQN Site)	30 Amp Fuse	Failed current carrying capacity and dimensional criteria.	Material identified as failed for two criteria. Remaining actions includes 10CFR21 review, history search and review of test report/procurement documents. PER 932364 to address additional 10 CFR 21 considerations.	Open
July 31, 2014	PER 886874	CEP098J	30 Amp Fuse	Failed current carrying capacity.	Expanded sample testing per EPRI TR-017218, Revision 1, resulted in acceptance of the fuse lot.	Closed

ENCLOSURE

Tennessee Valley Authority (TVA) Nuclear Power Group
Commercial Grade Dedication Recovery Project - October 2014 Status Report

RECENTLY IDENTIFIED ISSUES:

The following testing failures were recently identified and entered into the corrective action program:

Problem Evaluation Report 920903 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 35 amp fuses (CATID ADM954A). The current clearing time acceptance criterion specifies that with a test circuit consisting of 175 amps (+10/-0%), fuse shall blow in no less than 10 seconds. Of three fuses tested against current clearing time acceptance criteria, three fuses destructively tested failed to meet the testing acceptance criteria by opening early with failure values of 2.72, 9.08, and 9.62 seconds. A review of previously issued inventory was performed, identifying no fuses issued from the tested lot; therefore, no fuses were installed for safety related applications. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 922302 was initiated to identify and address failure of critical characteristic testing criteria for capacitance of 0.10 µF capacitors (CATID CBD738P). The capacitance acceptance criteria of (0.10 µF +/- 20%) (0.08 to 0.12 µF) was specified and developed using standard capacitor dedication criteria. Of nine capacitors tested against acceptance criteria, one capacitor non-destructively tested failed to meet the testing acceptance criteria with a value measured at 0.077 µF. A review of previously issued inventory was performed, identifying no capacitors installed from the tested lot; therefore, no capacitors were installed for safety related applications. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 922301 was initiated to identify and address failure of critical characteristic testing criteria for current carrying capacity of 10 amp fuses (CATID AFM357G). The current carrying capacity test applies 10 amps (+10/-0%) until the fuse is thermally stable. Temperature stabilization has occurred when no individual temperature rise reading of four consecutives readings taken at 5 minute intervals exceeds the average reading of these four readings by more than 2 degrees Celsius. An acceptable test shows the fuse is intact and no signs of breakdown or deterioration. Of 26 fuses initially tested for current carrying capacity, one fuse failed to meet the acceptance criteria by opening during testing. A review of previously issued inventory was performed, identifying no fuses installed in any plant equipment; therefore, no fuses were installed for safety related applications. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 920910 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 2.25 amp fuses (CATID CME546X). The current clearing time acceptance criterion specifies that with a test circuit consisting of 11.25 amps (+10/-0%), fuse shall blow in no less than 8 seconds. Of two fuses tested against current clearing time acceptance criteria, two fuses destructively tested failed to meet the testing acceptance criteria by failing to open and charring, resulting in aborting the test. The test was aborted without the fuses clearing at 86.78 and 91.67 seconds. A review of previously issued inventory was performed, identifying two fuses issued for non-quality related applications; therefore, no fuses were issued for safety related applications. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 924650 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 1.6 amp fuses (CATID CEN006Q). The current clearing time acceptance criterion specifies that with a test circuit consisting of 3.2 amps (+10/-0%), fuse shall blow in no greater than 240 seconds. Of nine fuses tested against current clearing time acceptance criteria, two fuses destructively tested failed to meet the testing acceptance criteria by failing to open before 20 minutes had elapsed, resulting in aborting the test. A review of previously issued inventory was performed, identifying eight fuses issued for non-quality related applications; therefore, no fuses were issued for safety related applications. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 924138 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 12 amp fuses (CATID BLA422J). The current clearing time acceptance criterion specifies that with a test circuit consisting of 60 amps (+10/-0%), fuse shall blow in no less than 10 seconds. Of three fuses tested against current clearing time acceptance criteria, one fuse destructively tested failed to meet the testing acceptance criteria opening early with a failure value of 0.82 seconds. A review of previously issued inventory was performed, identifying that material issued for a safety related work order were not installed; therefore, no immediate operability concerns. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 925152 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 7 amp fuses (CATID CFN093V). The current clearing time acceptance criterion specifies that with a test circuit consisting of 14 amps (+10/-0%), fuse shall blow in no greater than 240 seconds. Of one fuse tested against current clearing time acceptance criteria, one fuse destructively tested failed to meet the testing acceptance criteria by failing to open before 12 minutes had elapsed, resulting in aborting the test. Test current was increased to 35 amps to verify the fuse would clear. The fuse cleared in 29.87 seconds after raising the test current to 35 amps. A review of previously issued inventory was performed, identifying 12 fuses issued for quality related and non-quality related applications; therefore, no fuses were issued for safety related applications. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 918351 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 10 amp fuses (CATID BLD150M). The current clearing time acceptance criterion specifies that with a test circuit consisting of 20 amps (+10/-0%), fuse shall blow in no greater than 240 seconds. Prior to testing, three fuses in the first lot were found to be open and could not be tested. Of 12 fuses tested at 20 amps against current clearing time acceptance criteria, one fuse destructively tested failed to meet the testing acceptance criteria by failing to open before 12 minutes had elapsed, resulting in aborting the test. Test current was later increased to 50 amps to verify the fuse would clear. The fuse cleared in 19.35 seconds after raising the test current to 50 amps. Based on the single fuse failure, an expanded sample was performed and an additional eight fuses were tested at either 20 amps (200% rated current) or 50 amps (500% rated current). Four fuses were destructively tested at each current value, with all passing the acceptance criteria. Material lots with failed or open fuses were conservatively identified to be scrapped. The two lots tested for expanded

sample were accepted based on the completed testing results. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 924148 was initiated to identify and address failure of critical characteristic testing criteria for dimensional length of 3600 µF capacitors (CATID CPA432M). During initial inspection, all four capacitors failed the length acceptance criteria of 4.063" to 4.187". As a result, all 10 capacitors from the lot were inspected, which failed the acceptance criteria. Investigation identified that the acceptance criteria was incorrectly specified in the package. When applying the correct acceptance criteria, only one capacitor failed the criteria with a length measurement of 4.226" in comparison to the applicable acceptance criteria of 4.095" to 4.219". A review of previously issued inventory was performed, identifying several capacitors installed from the tested lot in safety related applications. A review of work orders did not identify any installation or fit deviations; therefore, there were no operability concerns. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 926791 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 8 amp fuses (CATID BPQ794H). The current clearing time acceptance criterion specifies that with a test circuit consisting of 16 amps (+10/-0%), fuse shall blow in no greater than 240 seconds. Of three fuses tested against current clearing time acceptance criteria, one fuse destructively tested failed to meet the testing acceptance criteria by clearing at 366.92 seconds. A review of previously issued inventory was performed, identifying that no fuses were issued from the tested lot; therefore, no fuses were issued for safety related applications. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 926998 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 6.25 amp fuses (CATID CAA223F). The current clearing time acceptance criterion specifies that with a test circuit consisting of 12.5 amps (+10/-0%), fuse shall blow in no greater than 240 seconds. Of five fuses tested against current clearing time acceptance criteria, two fuses destructively tested failed to meet the testing acceptance criteria. One fuse cleared at 376.93 seconds and the second fuse failed to clear for greater than 12 minutes, when the test was aborted. A review of previously issued inventory was performed, identifying that no fuses were issued from the tested lot; therefore, no fuses were issued for safety related applications. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 937329 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 8 amp fuses (CATID BLD276K). Fuse from the lot failed both current clearing time tests. The 200% current clearing time acceptance criterion specifies that with a test circuit consisting of 16 amps (+10/-0%), fuse shall blow in no greater than 240 seconds. Of four fuses tested against 200% current clearing time acceptance criteria, two fuses destructively tested failed to meet the testing acceptance criteria by clearing at 670.07 and 619.30 seconds. The 500% time delay current clearing time acceptance criterion specifies that with a test circuit consisting of 40 amps (+10/-0%), fuse shall blow in no less than 10 seconds. Of four fuses tested against 500% current clearing time acceptance criteria, one fuse destructively tested failed to meet the testing acceptance criteria by failing to clear after 85.65 seconds and the test was terminated due to the cap solder melting and the fuse emitting

smoke. A review of previously issued inventory was performed, identifying that fuses were only issued to non-quality related applications from the tested lot; therefore, no fuses were issued for safety related applications. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 937305 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 2 amp fuses (CATID ACM855J). The current clearing time acceptance criterion specifies that with a test circuit consisting of 4 amps (+10/-0%), fuse shall blow in no greater than 240 seconds. Of six fuses tested against current clearing time acceptance criteria, one fuse destructively tested failed to meet the testing acceptance criteria by failing to open before 12 minutes had elapsed, resulting in aborting the test. A review of previously issued inventory was performed, identifying 20 fuses issued for non-quality related applications; therefore, no fuses were issued for safety related applications. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 940584 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 2.5 amp fuses (CATID BAV418F). The current clearing time acceptance criterion specifies that with a test circuit consisting of 5 amps (+10/-0%), fuse shall blow in no greater than 240 seconds. Of four fuses tested against current clearing time acceptance criteria, one fuse destructively tested failed to meet the testing acceptance criteria by failing to open before 12 minutes had elapsed, resulting in aborting the test. A review of previously issued inventory was performed, identifying four fuses issued, but not installed for quality related applications; therefore, no fuses were issued for safety related applications. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 937330 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 4 amp fuses (CATID CAA069M). The current clearing time acceptance criterion specifies that with a test circuit consisting of 8 amps (+10/-0%), fuse shall blow in no greater than 240 seconds. Of five fuses tested against current clearing time acceptance criteria, one fuse destructively tested failed to meet the testing acceptance criteria, by clearing at 248.73 seconds. A review of previously issued inventory was performed, identifying that no fuses were issued from the tested lot; therefore, no fuses were issued for safety related applications. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

Problem Evaluation Report 940682 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 25 amp fuses (CATID BYE634G). The current clearing time acceptance criterion specifies that with a test circuit consisting of 50 amps (+10/-0%), fuse shall blow in no greater than 240 seconds. Of two fuses tested against current clearing time acceptance criteria, one fuse destructively tested failed to meet the testing acceptance criteria by failing to open before 12 minutes had elapsed, resulting in aborting the test. A review of previously issued inventory was performed, identifying no fuses issued from the tested material lots; therefore, no fuses were issued for safety related applications. This condition will be further evaluated, as described in the CGD Recovery Project Plan.

ENCLOSURE

Tennessee Valley Authority (TVA) Nuclear Power Group
Commercial Grade Dedication Recovery Project - October 2014 Status Report

Problem Evaluation Report 940658 was initiated to identify and address failure of critical characteristic testing criteria for current clearing time of 15 amp fuses (CATID BVN393M). The current clearing time acceptance criterion specifies that with a test circuit consisting of 30 amps (+10/-0%), fuse shall blow in no greater than 240 seconds. Of six fuses tested against current clearing time acceptance criteria, two fuses destructively tested failed to meet the testing acceptance criteria by clearing at 283.90 and 349.62 seconds. A review of previously issued inventory was performed, identifying one fuse issued for a safety related application from the failed material lot. Review of the installed location identified that operability is maintained. This condition will be further evaluated, as described in the CGD Recovery Project Plan.