TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

October 27, 1982

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

SEQUOYAH NUCLEAR PLANT UNIT 2 - ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT - NCR'S SQN EEB 8023 THROUGH SQN EEB 8039 (EXCLUDING SQN EEB 8034) - OPEN ITEM 50-328/81-20-04 - FINAL REPORT

The subject open item was initially reported to NRC-OIE Inspector R. W. Wright on October 24, 1980 in accordance with 10 CFR 50.55(e). Since the initial report was submitted, related NCR's SQN EEB 8040, SQN EEB 8041, SQN EEB 8042, SQN EEB 8045, SQN EEB 8046, SQN EEB 8048 through SQN EEB 8052, SQN EEB 8101, SQN EEB 8103, SQN EEB 8106, SQN MEB 8007, SQN MEB 8101, SQN NEB 8031 through SQN NEB 8034, and SQN NEB 8104 have been identified and submitted to you on the following dates: November 25, 1980 and January 23, February 18, March 25, April 14, April 28, June 19, August 21, and September 14, 1981. Enclosed is our final report concerning this item. We do not consider 10 CFR 21 applicable to these nonconformances.

If you have any questions, please get in touch with R. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Licensing

Enclosure
cc: Mr. Richard C. DeYoung, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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SEQUOYAH NUCLEAR PLANT UNIT 2
ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT
NCR SQNEEB8023 (AND OTHERS)
10CFR50.55(e)
NINTH REPORT (FINAL)

Description of Deficiency

During the review of qualification records for electrical equipment required by NUREG-0588, a number of components were identified as having inadequate documentation to verify their qualification levels for the harsh environments resulting from abnormal or accident conditions at the plant. A listing of the subject components is attached to this report.

Safety Implications

The equipment identified in this report is located in a number of auxiliary systems within the plant. Some of these systems are required to mitigate the effects of postulated accident sequences. If, during an accident, one of these components were to fail in the harsh environment created by the accident, this failure could possibly result in interrupting operation of a system(s) required to perform a direct accident-mitigating function.

Corrective Action

The corrective action to be taken on these open items is identified on the attachment to this report.

The basic cause of the condition described in this nonconformance report was inadequate provisions in the TVA procurement specifications for requiring equipment vendors to supply the necessary environmental qualification documentation for their components. The lack of readily available documentation, together with the indeterminant status of some "as-installed" component types and model numbers increased the time required to evaluate and disposition the individual problem areas.

To rectify the condition described above, TVA is taking steps to enhance future procurements of class 1E electrical equipment in the area of environmental qualification documentation. These efforts include the development of environmental design criteria for Sequoyah and Watts Bar (similar criteria presently exists for Bellefonte and Yellow Creek). This document will specify environmental conditions for qualification of equipment and design of environmental control systems for all plant conditions (normal, abnormal, and accident). The Sequoyah criteria was issued on July 16, 1982. Also, guidelines have been distributed by memorandum related to future class 1E electrical equipment purchases which require the identification of pertinent environmental conditions (including magnitude and durations) in which the subject equipment must operate for inclusion (as equipment qualification requirements) in the bid specifications issued to vendors.

It is now recognized by TVA and the nuclear industry that plant designs must be evaluated for compliance with the requirements of NUREG-0588 prior to receipt of an operating license. As a result, program plans have been developed and issued to accomplish this work for Watts Bar and Bellefonte. These program plans outline a systematic assessment for calculating plant environments as a result of postulated loss-of-coolant accidents (LOCA) or high energy line breaks (HELB), defining the plant boundaries for these accident environments, identifying the systems and components important to safety, initiating field inspections to verify the actual equipment installations, and reviewing the available environmental qualification documentation on these components. Equipment found to be in noncompliance with the guidelines of NUREG-0588 will be tabulated and reported to the NRC as required. In conjunction with this program, a separate program, previously established for Browns Ferry and Sequoyah, will be developed for Watts Bar and Bellefonte to track the qualification lifetimes of this equipment and replace components as their "qualified" lives expire.

TVA also recognizes that the issue of environmental qualification of electrical equipment is being pursuied by the NRC in the form of a revision to the Code of Federal Regulations (reference proposed rule 10CFR50.49 in the January 20, 1982, Federal Register). We expect to follow the dispositioning of this proposal for future impacts upon our program plans.

As for plants beyond Bellefonte, TVA will document the environmental qualification levels of the electrical equipment to be installed on a schedule consistent with the overall plant design, construction, licensing, and operation schedules.

DE05;E72025.01

NCR No.	Component No.	Model No.	Manufacturer	Corrective Action/Resolution
SQNEEB8023R1	TS-74-43 TS-74-44 TS-74-45 TS-74-46	T657A1540	Honeywell	TVA has reviewed the available qualification documentation for this equipment and has concluded that the components are acceptable for use on an interim basis. These conclusions are supported in our response to NUREG-0588. However, to establish full equipment qualification, TVA will either type-test these instruments or replace them with qualified components in accordance with the guidelines and schedules of NUREG-0588.
SQNEEB8024	Essential Control Air Dryer	101HA1-6HD9810 -331	Pall Trinity Corporation	TVA has determined that this equipment is not located in a potentially harsh environment resulting from an accident. Therefore, this equipment, using NUREG-0588 guidelines, meets Category "D" requirements.
SQNEEB8025	PDT-65-80 PDT-65-82 PDT-65-90 PDT-65-97	E13DL	Foxboro	Same as SQNEEB8023R1.
SQNEEB8026	FM-30-148	T-25	ITT Hammel Dahl	See NCR SQNEEB8051.
SQNEEB8027R1	FM-30-148A FM-30-149A	SW231-IT "	Transmation "	Same as SQNEEB8024.
	TM-67-84 TM-67-85 TM-67-92 TM-67-93 TM-67-100 TM-67-108 TM-67-109 TM-67-101	SW611 " " " " " " "	" " " " " " " "	TVA has determined that the failure of this equipment to function properly in an adverse environment does not affect any associated or related plant safety function. Therefore, this equipment using NUREG-0588 guidelines, meets category "C" requirements. Consequently, TVA may consider component replacement for reasons other than plant safety.
SQNEEB8028R1	TS-1-17A TS-1-17B TS-1-18A TS-1-18B	17323-0	Fenwal	See response to SQNEEB8023R1

SQNEEB8029R1	TS-30-103A	T675A1540	Honeywell	Deleted from this report, not applicable to SQN unit 2.
	TS-30-104A	"	"	See response to SQNEB8023R1.
SQNEEB8030R2	PDIS-30-148	3301	Dwyer	See response to SQNEEB8024.
	PDIS-30-149	"	"	"
SQNEEB8031R3	FIS-67-206	288A	ITT Barton	See response to SQNEEB8023R1
	FIS-67-209	288A	ITT Barton	See response to SQNEEB8023R1
	FIS-70-81	288A	ITT Barton	See response to SQNEEB8023R1
	PDIS-313-305	288A	ITT Barton	See response to SQNEEB8023R1
	PDIS-313-340	288A	ITT Barton	See response to SQNEEB8023R1
	FIS-65-55A/B	288A	ITT Barton	These switches have been determined to be not qualified for the potentially harsh environment in which they are located. As a result, TVA has modified the switch wiring (reference engineering change notice L5124) to remove those functions that, assuming failure of the switch in the harsh environment, could adversely affect the safety of operations of the plant. This change has been incorporated into the plant operating procedures. These switches will be replaced with qualified components per the guidelines of NUREG-0588 (reference engineering change notices L5125 and 2824).
	FIS-65-44E/F	288A	ITT Barton	
	FIS-65-25A/B	288A	ITT Barton	
	FIS-65-25C/D	288A	ITT Barton	
	FIS-65-31A/B	288A	ITT Barton	
	FIS-65-55C/D	288A	ITT Barton	
	FIS-65-44A/B	288A	ITT Barton	
	FIS-65-44C/D	288A	ITT Barton	
	FIS-65-25E/F	288A	ITT Barton	
	FIS-65-31C/D	288A	ITT Barton	
SQNEEB8032R2	FT-72-13	555	Bailey Controls	See response to SQNEEB8023R1.
	FT-72-34	"	"	
	FT-70-81A	"	"	
	FT-70-81B	"	"	
	FT-70-81D	"	"	
	FT-70-81E	"	"	
	FT-3-142	"	"	
SQNEEB8033R2	RE-90-130	N/A	General Atomic	See response to SQNEEB8023R1.
	RE-90-131		"	
	RE-90-106		"	
	RE-90-112		"	
	RE-90-140		"	
	RE-90-141		"	
	RE-90-133		"	
	RE-90-134		"	See response to SQNEEB8024.
	RE-90-102		"	See response to SQNEEB8024.
	RE-90-103			

SQNEEB8035R3	TS-30-190	A19BBC-2	PENN	See response to SQNEEB8027R1.
	TS-30-191	"	"	
	TS-30-184	"	"	
	TS-30-185	"	"	
	TS-30-192	"	"	
	TS-30-193	"	"	
	TS-30-207	"	"	
	TS-30-175	"	"	
	TS-30-176	"	"	
	TS-30-177	"	"	
	TS-30-178	"	"	
	TS-30-179	"	"	
	TS-30-180	"	"	
	TS-30-182	"	"	
	TS-30-183	"	"	
	TS-30-194	"	"	
	TS-30-195	"	"	
	TS-30-196	"	"	
	TS-30-197	"	"	
	TS-30-200	"	"	
	TS-30-186	"	"	
	TS-30-187	"	"	
	TS-30-201	"	"	
	TS-30-202	"	"	
SQNEEB8036R2	FS-30-184	1627	F. W. Dwyer	See response to SQNEEB8023R1.
	FS-30-185	"	"	
	FS-30-192	"	"	
	FS-30-193	"	"	
	FS-30-157	"	"	
	FS-30-194	"	"	
	FS-30-195	"	"	
	FS-30-196	"	"	
	FS-30-197	"	"	
	FS-30-186	"	"	
	FS-30-202	"	"	
	FS-30-201	"	"	
	FS-30-187	"	"	
	FS-30-200	"	"	In the last response to SQN EEB 8036R2, TVA indicated that flow switches FS-30-200 and FS-30-207 were not qualified for the postulated accident environment and would be relocated to a more suitable environment before initial criticality. Alternately, new switches were procured and installed; however, post modification testing showed the switches to have an unacceptably slow operation time.
	FS-30-207	"	"	

					TVA has evaluated the function of these switches to determine the safety implications of their inoperability. The switches are installed on the Emergency Gas Treatment System room coolers. The switches were designed to automatically start the standby cooler upon low flow to the operating cooler. Operating practices, however, require both fans be lined up in automatic building isolation (ABI) or when the room temperature reaches a predetermined setpoint, both fans will automatically start and run until the ABI is reset and/or the temperature is reduced. TVA concludes this is an acceptable mode of operation and that the failure of the subject flow switches will not prevent these cooling fans from performing their intended functions.
SQNEEB8037R2	PS-32-62	604G	Custom Components	See response to SQNEEB8023R1.	
	PS-32-88	"	"	"	
	PS-32-82	"	"	"	
	PS-32-85	"	"	"	
	PS-3-140A	"	"	"	
	PS-3-150A	"	"	"	
	PS-3-139A	"	"	"	
	PS-3-139B	"	"	"	
	PS-3-139D	"	"	"	
	PS-3-144A	"	"	"	
	PS-3-144B	"	"	"	
	PS-3-144D	"	"	"	
	PS-3-140B	"	"	"	
	PS-3-150B	"	"	"	
	PS-3-138A	"	"	"	
	PS-3-138B	"	"	"	
	PS-3-148	"	"	"	
	PS-3-156	"	"	"	
	PS-3-164	"	"	"	
	PS-3-171	"	"	"	
	PS-70-209	"	"	"	
	PS-70-210	"	"	"	
				"	
SQNEEB8038R2	TS-30-103	18003-7	Fenwal	Deleted from this report; not applicable to SQN 2.	
	TS-30-104	"	"	See response to SQNEEB8023R1.	
	TS-30-214	"	"		

SQNEEB8039R1	FSV-1-181	HT3800B58RU	ASCO	See response to SQNEEB8023R1. These solenoids will be replaced with qualified components per the guidelines and schedules of NUREG-0588 (reference engineering change notice, ECN, L5457).
	FSV-1-182	"	"	
	FSV-1-183	"	"	
	FSV-1-184	"	"	
	FSV-333-223	HT8300C58RF	ASCO	Deleted; See NCR SQNMEB8007R2.
	FSV-313-225	"	"	
	FSV-313-230	"	"	
	FSV-313-232	"	"	
	FSV-77-127	WPXHV202-300-IF	ASCO	See respose to SQNEEB8023R1. These solenoids will be replaced with qualified components per the guidelines and schedules of NUREG-0588 (reference ECN L5457).
	FSV-90-108	HTX8320A22V	ASCO	See response to SQNEEB8023R1 These solenoids will be replaced with qualified components per the guidelines and schedules of NUREG-0588 (reference ECN L5457).
	FSV-90-109	"	"	
	FSV-90-110	"	"	
	FSV-90-114	"	"	
	FSV-90-115	"	"	
	FSV-90-116	"	"	
	FSV-30-298	HT8320A108	"	Deleted from this report, not applicable to SQN 2.
	FSV-30-299			
	FSV-30-3	HT8320A108	"	Deleted from this report, not applicable to SQN 2.
	FSV-30-6	"	"	
	FSV-30-60	"	"	
	FSV-30-69	"	"	
	FSV-30-146A	HT8320A185	"	
	FSV-30-146B	"	"	
SQNEEB8040R1	PT-3-132A	556	Bailey	See response to SQNEEB8023R1
SQNEEB8041R1	PM-3-122	MEA1-19K-2	MEA	See response to SQNEEB8023R1
	PM-3-132	"	"	
SQNEEB8042	TS-12-91A	27120-50	Fenwal	See response to SQNEEB8023R1
	TS-12-91B	"	"	"
	TS-12-92A	"	"	"
	TS-12-92B	"	"	"
	TS-12-93A	"	"	"
	TS-12-93B	"	"	"
	TS-12-94A	"	"	"
	TS-12-94B	"	"	"
	TS-12-95A	"	"	"
	TS-12-95B	"	"	"
	TS-12-96A	"	"	"
	TS-12-96B	"	"	"
	TS-12-97A	"	"	"

	TS-12-97B	"	"	"
	TS-12-98A	"	"	"
	TS-12-98B	"	"	"
	TS-12-99A	"	"	"
	TS-12-99B	"	"	"
SQNEEB8045R3	2-HS-62-61B	0250T	Cutler-Hammer	In previous reports, it was indicated that switches of this type which were located in areas where the normal or accident environment exceeded 150° F or 10^{6} rads would be removed from service prior to exceeding 5% power. TVA has since determined acceptable environmental qualification documentation exists for these switches.
	2-HS-63-67B	10250T	Cutler-Hammer	
	2-HS-63-80B	10250T	Cutler-Hammer	
	2-HS-63-98B	10250T	Cutler-Hammer	
	2-HS-63-118B	10250T	Cutler-Hammer	
	2-HS-63-172B	10250T	Cutler-Hammer	
	2-HS-68-332B	10250T	Cutler-Hammer	
	2-HS-68-333B	10250T	Cutler-Hammer	
	2-HS-30-175	10250T	Cutler-Hammer	
	2-HS-30-176	10250T	Cutler-Hammer	
	2-HS-74-3B	10250T	Cutler-Hammer	
	2-HS-74-10B	10250T	Cutler-Hammer	
	2-HS-74-20B	10250T	Cutler-Hammer	
	2-HS-74-21B			
	2-HS-3-136A/B	10250T	Cutler-Hammer	
	2-HS-3-136B/B	10250T	Cutler-Hammer	
	2-HS-3-179A	10250T	Cutler-Hammer	
	2-HS-3-179B	10250T	Cutler-Hammer	
	2-HS-30-214	10250T	Cutler-Hammer	
	2-HS-46-54B	10250T	Cutler-Hammer	
	2-HS-46-54D	10250T	Cutler-Hammer	
	2-HS-45-55B	10250T	Cutler-Hammer	
	2-HS-45-56B	10250T	Cutler-Hammer	
	2-HS-74-33B	10250T	Cutler-Hammer	
	2-HS-74-35B	10250T	Cutler-Hammer	
	2-HS-26-240	10250T	Cutler-Hammer	
	2-HS-26-242	10250T	Cutler-Hammer	
	2-HS-26-245	10250T	Cutler-Hammer	
	2-HS-62-63B	10250T	Cutler-Hammer	
	2-HS-62-90B	10250T	Cutler-Hammer	
	2-HS-62-91B	10250T	Cutler-Hammer	
	2-HS-62-98	10250T	Cutler-Hammer	
	2-HS-62-99	10250T	Cutler-Hammer	
	2-HS-63-1B	10250T	Cutler-Hammer	
	2-HS-63-3B	10250T	Cutler-Hammer	
	2-HS-63-5B	10250T	Cutler-Hammer	
	2-HS-63-6B	10250T	Cutler-Hammer	
	2-HS-63-7B	10250T	Cutler-Hammer	
	2-HS-63-8B	10250T	Cutler-Hammer	
	2-HS-63-11B	10250T	Cutler-Hammer	
	2-HS-63-22B	10250T	Cutler-Hammer	
	2-HS-63-25B	10250T	Cutler-Hammer	
	2-HS-63-26B	10250T	Cutler-Hammer	

2-HS-63-36	10250T	Cutler-Hammer
2-HS-63-37	10250T	Cutler-Hammer
2-HS-63-39B	10250T	Cutler-Hammer
2-HS-63-40B	10250T	Cutler-Hammer
2-HS-63-93B	10250T	Cutler-Hammer
2-HS-63-94B	10250T	Cutler-Hammer
2-HS-63-152B	10250T	Cutler-Hammer
2-HS-63-153B	10250T	Cutler-Hammer
2-HS-63-156B	10250T	Cutler-Hammer
2-HS-63-157B	10250T	Cutler-Hammer
2-HS-70-90B	10250T	Cutler-Hammer
2-HS-70-92B	10250T	Cutler-Hammer
2-HS-70-139B	10250T	Cutler-Hammer
2-HS-70-140B	10250T	Cutler-Hammer
2-HS-70-143B	10250T	Cutler-Hammer
2-HS-72-13B	10250T	Cutler-Hammer
2-HS-72-20B	10250T	Cutler-Hammer
2-HS-72-21B	10250T	Cutler-Hammer
2-HS-72-22B	10250T	Cutler-Hammer
2-HS-72-34B	10250T	Cutler-Hammer
2-HS-74-12B	10250T	Cutler-Hammer
2-HS-74-24B	10250T	Cutler-Hammer
2-HS-67-83B	10250T	Cutler-Hammer
2-HS-67-88B	10250T	Cutler-Hammer
2-HS-67-91B	10250T	Cutler-Hammer
2-HS-67-96B	10250T	Cutler-Hammer
2-HS-67-99B	10250T	Cutler-Hammer
2-HS-67-104B	10250T	Cutler-Hammer
2-HS-67-107B	10250T	Cutler-Hammer
2-HS-67-112B	10250T	Cutler-Hammer
2-HS-67-130B	10250T	Cutler-Hammer
2-HS-67-131B	10250T	Cutler-Hammer
2-HS-67-133B	10250T	Cutler-Hammer
2-HS-67-134B	10250T	Cutler-Hammer
2-HS-67-138B	10250T	Cutler-Hammer
2-HS-67-139B	10250T	Cutler-Hammer
2-HS-67-141B	10250T	Cutler-Hammer
2-HS-67-142B	10250T	Cutler-Hammer
2-HS-1-11B	10250T	Cutler-Hammer
2-HS-1-11D	10250T	Cutler-Hammer
2-HS-1-22B	10250T	Cutler-Hammer
2-HS-1-22D	10250T	Cutler-Hammer
0-HS-65-23B	10250T	Cutler-Hammer
0-HS-65-42B	10250T	Cutler-Hammer
2-HS-30-15B	10250T	Cutler-Hammer
2-HS-30-177	10250T	Cutler-Hammer
2-HS-30-178	10250T	Cutler-Hammer
2-HS-30-179	10250T	Cutler-Hammer

	2-HS-30-182	10250T	Cutler-Hammer	
	2-HS-30-183	10250T	Cutler-Hammer	
	2-HS-30-200	10250T	Cutler-Hammer	
	2-HS-30-207	10250T	Cutler-Hammer	
	2-HS-62-104B	10250T	Cutler-Hammer	
	2-HS-62-108B	10250T	Cutler-Hammer	
	2-HS-63-4B	10250T	Cutler-Hammer	
	2-HS-63-10B	10250T	Cutler-Hammer	
	2-HS-63-15B	10250T	Cutler-Hammer	
	2-HS-63-47B	10250T	Cutler-Hammer	
	2-HS-63-48B	10250T	Cutler-Hammer	
	2-HS-63-175B	10250T	Cutler-Hammer	
	2-HS-72-10B	10250T	Cutler-Hammer	
	2-HS-72-27B	10250T	Cutler-Hammer	
	2-HS-87-17B	10250T	Cutler-Hammer	
SQNEEB8046R2	FSV-67-168	HB8300C58RU	ASCO	See response to SQNEEB8023R1 These solenoids will be replaced with qualified components per the guidelines and schedules of NUREG-0588 (reference ECN L5457).
	FSV-67-170	"	"	
	FSV-67-176	"	"	
	FSV-67-182	"	"	
	FSV-67-184	"	"	
	FSV-67-186	"	"	
	FSV-67-188	"	"	
	FSV-67-190	"	"	
	FSV-67-354	"	"	
	FSV-67-356	"	"	
	FSV-67-342	HB830081RU	"	
	FSV-67-344	HB8300C58RU	"	
	FSV-67-346	"	"	
	FSV-67-348	"	"	
	FSV-67-350	"	"	
	FSV-67-352	"	"	
SQNEEB8048R3	LSV-3-148	HT8300B48RU	ASCO	See response to SQNEEB8023R1.
	LSV-3-156	"	"	
	LSV-3-164	"	"	
	LSV-3-171	"	"	
	LSV-3-172	"	"	
	LSV-3-173	"	"	
	FSV-77-241	HT8300B61F	"	
	FSV-1-7	HT8300B58RU	"	TVA has determined that these solenoids are not qualified for the harsh environment in which they are located. The solenoids were replaced with qualified components prior to unit 2 initial criticality (reference ECN L5457).
	FSV-1-14	"	"	
	FSV-1-25	"	"	
	FSV-1-32	"	"	

	FSV-1-147	HT8300B58RU	ASCO	See response to SQNEEB8023R1.
	FSV-1-150	"	"	These solenoids will be
	FSV-1-148	"	"	replaced with qualified
	FSV-1-149	"	"	components per the guidelines and schedules of NUREG-0588 (reference ECN L5457).
SQNEEB8049R2	LSV-3-148A	WPX-HV-202	ASCO	See response to SQNEEB8023R1.
	LSV-3-156A			
	LSV-3-164A	" -301-1F	"	
	LSV-3-171A	"	"	
	FSV-77-128	"	"	TVA has determined that this equipment is not located in a potentially harsh evnironment resulting from an accident. Therefore, this equipment, using NUREG-0588 guidelines, meets Category "D" requirements.
SQNEEB8050R2	FSV-12-79	HV200-924 -2F	ASCO	See response to SQNEEB8023R1.
SQNEEB8051	FM-30-148	T-25	ITT HAMMEL DAHL	See response to SQNEEB8024.
	FM-30-149	"	"	
SQNEEB8052R1	LM-3-156A	8005	Masoneilan	See response to SQNEEB8023R1.
	LM-3-164A			
	LM-3-171A			
	LM-3-148A			
SQNEEB8101R2	FSV-67-217	HB8300C58RU	ASCO	See response to SQNEEB8023R1
	FSV-67-219	"	"	
	FSV-67-336	"	")	These solenoids have been
	FSV-67-338	"	")	determined to be not qualified for the harsh environment in which they are located. The valves were replaced with qualified solenoids prior to unit 2 initial criticality (reference ECN L5457).
SQNEEB8103	FC-38-148	PC-4000-2	JOHNSON CONTROLS	See response to SQNEEB8024.
	FC-38-149	"	"	
SQNEEB8106	ZS-67-217	EA-700	NAMCO CONTROLS	See response to SQNEEB8023R1
	ZS-67-219	"	"	
	ZS-67-336	"	"	
	ZS-67-338	"	"	
SQNMEB8007R2	FCV-1-15	SMB-00	LIMITORQUE	See response to SQNEEB8023R1
	FCV-1-16	"	"	
	FCV-1-17	"	"	
	FCV-1-18	"	"	

FCV-3-33	SMB-4	LIMITORQUE	See response to SQNEEB8023R1
FCV-3-100	"	"	
FCV-3-47	"	"	
FCV-3-87	"	"	
FSV-30-8	C-5439	AVCO	TVA has reviewed the accident environments in which these valves are located and has concluded that the solenoids are acceptable for interim operation. However, the valves will be replaced with qualified solenoids per the guidelines of NUREG-0588.
FSV-30-10	"	"	
FSV-30-50	"	"	
FSV-30-52	"	"	
FSV-30-15	"	"	
FSV-30-17	"	"	
FSV-30-40	"	"	
FSV-30-56	"	"	
FSV-30-20	"	"	
FSV-30-58	"	"	
FSV-30-2	"	"	See response to SQNEEB8023R1
FSV-30-5	"	"	"
FSV-30-61	"	"	"
FSV-30-62	"	"	"
FSV-30-7	"	"	"
FSV-30-9	"	"	"
FSV-30-14	"	"	"
FSV-30-16	"	"	"
FSV-30-19	"	"	"
FSV-30-37	"	"	"
FSV-30-51	"	"	"
FSV-30-53	"	"	"
FSV-30-57	"	"	"
FSV-30-59	"	"	"
FSV-30-12	"	"	See response on SQNEEB8027; this is category "C" equipment
FSV-30-54	"	"	
FSV-30-129	HT8302B25RF	ASCO	In previous reports, it was noted that these valves had been replaced with qualified solenoids. However, in a recent field audit, TVA determined that the solenoids had not been changed out. As a result of this audit, the solenoids have now been replaced with qualified components (reference ECN L5289).
FSV-30-130	"	"	
FSV-65-7	C-5439	AVCO	See response to SQNEEB8023R1
FSV-65-50	"	"	"
FCV-70-133	SMB-000	LIMITORQUE	See response to SQNEEB8023R1
FCV-70-134	"	"	"
FCV-72-2	SMB-1/SMB-2	LIMITORQUE	See response to SQNEEB8023R1
FCV-72-39	"	"	"

FCV-72-20	"	"	"
FCV-72-23	"	"	"
FCV-72-21	"	"	"
FCV-72-40	"	"	"
FCV-72-41	"	"	"
PSV-I-6A	HT8300B58RU	ASCO	See response to SQNEEB8023R1 These solenoids will be replaced with qualified equipment per the guidelines and schedules of NUREG-0588 (reference ECN L5457).
PSV-I-6B	"	"	
PSV-I-31A	"	"	
PSV-I-31B	"	"	
PSV-I-13A	"	"	
PSV-I-13B	"	"	
PSV-I-24A	"	"	
PSV-I-24B	"	"	
ZS-65-86	3R-321-AFC	BETTIS	See response to SQNEEB8023R1
ZS-65-87	"	"	"
ZS-65-81	"	"	"
ZS-65-83	"	"	"
ZS-30-9	EA-170	NAMCO	See response to SQNEEB8023R1
ZS-30-53	"	"	"
ZS-30-14	"	"	"
ZS-30-7	"	"	"
ZS-30-51	"	"	"
ZS-30-57	"	"	"
ZS-30-19	"	"	"
ZS-30-59	"	"	"
LS on FCV-30-16	EA-170	NAMCO	"
LS on FCV-30-37	"	"	"
LS on FCV-30-12	"	"	"
LS on FCV-30-54	"	"	"
LS on FCV-30-61	"	"	"
LS on FCV-30-62	"	"	"
LS on FCV-30-2	"	"	"
LS on FCV-30-5	"	"	"
FSV-30-102	HT8302B25RF	ASCO	Delete from this list; not applicable to SQN 2
LS on FCV-65-8	EA-170	NAMCO	See response to SQNEEB8023R1
LS on FCV-65-51	"	"	"
FSV-313-222	HT8300D58RF	ASCO	TVA has reviewed the accident environments in which these valves are located and has concluded that the solenoids are acceptable for interim plant operation. However, the valves will be replaced with qualified solenoids per the guidelines and schedules of NUREG-0588 (reference ECN L5457).
FSV-313-224	"	"	
FSV-313-229	"	"	
FSV-313-231	"	"	
FSV-313-223	"	"	
FSV-313-225	"	"	
FSV-313-230	"	"	
FSV-313-232	"	"	

	LS on:			
	FCV-313-222	OPD-AR-7846	MICROSWITCH	See response to SQNEEB8023R1
	FCV-313-224	"	"	"
	FCV-313-229	"	"	"
	FCV-313-231	"	"	"
	FCV-313-223	EA-180	NAMCO	Documentation has been located
	FCV-313-225	"	"	which confirms acceptable
	FCV-313-230	"	"	environmental qualification.
	FCV-313-232	"	"	
	LS-313-340	203G/ 7810C1[illegible]0	MERCOID	In previous reports, it was
	LS-313-305	"	"	indicated that these switches would be either qualified or replaced prior to initial criticality. TVA has now qualified these switches for operation on an interim basis (see response to SQNEEB8023R1).
SQNMEB8101	FCO-30-122	EA-700	NAMCO	See response to SQNEEB8023R1.
	FCO-30-123	"	"	
	FCO-30-129	"	"	
	FCO-30-130	"	"	
	FCO-30-136	"	"	
	FCO-30-137	"	"	
	FCO-30-138	"	"	
	FCO-30-140	"	"	
	FCO-30-141	"	"	
	FCO-30-279	"	"	
	FCO-30-280	"	"	
	ZS-30-28	EA-700	NAMCO	See response to SQNEEB8023R1
	ZS-30-32	"	"	
	ZS-30-119	"	"	
	ZS-30-120	"	"	
	ZS-30-121	"	"	
	ZS-30-125	"	"	
	ZS-30-131	"	"	
	FCO-65-26	EA-700	NAMCO	See response to SQNEEB8023R1
	FCO-65-27	"	"	
	FCO-65-30	"	"	
	FCO-65-52	"	"	
	FCO-65-53	"	"	
SQNNEB8031R1	FSV-62-128	-	ASCO	These valves were nonconformed
	FSV-62-144	-	"	due to the lack of a nameplate
	FSV-77-20	-	"	(confirmed by field
	FCV-63-175	-	LIMITORQUE	verification survey). However, the valves are similar to valve models that have been confirmed to be

				qualified. If full environmental qualification cannot be confirmed the valves will be replaced with qualified components in accordance with the guidelines of NUREG-0588.
SQNNEB8032	FSV-62-77	FT831654	ASCO	Documentation has been located which confirms equipment qualification acceptable.
SQNNEB8033	FCV-63-38	-	-	Deleted from this list; not applicable to SQN-2.
	FSV -63-41	LB831654	ASCO	Documentation has been located which confirms acceptable equipment qualification.
	FSV -63-42	"	"	
	FSV -63-84	"	"	
	FT-3-35A			Deleted; see NCR SQNNEB8034R1
	FT-3-35B			"
	FT-3-48A			"
	FT-3-48B			"
	FT-3-90A			"
	FT-3-90B			"
	FT-3-103A			"
	FT-3-103B			"
	PT-1-2A	E11GM	FOXBORO	Documentation has been located which confirms acceptable equipment qualification.
	PT-1-5	"	"	
	PT-1-27A	"	"	
	PT-1-5	"	"	
SQNNEB8034R1	FCV-63-68	-	-	Deleted from this list; not applicable to Unit 2.
	LT-3-55	764	BARTON	Deleted; not applicable to SQN 2.
	LT-63-177	764	BARTON	Deleted; not applicable to SQN 2
	LT-63-178	"	"	
	LT-63-179	"	"	
	LT-63-176	"	"	
	FCV-68-332	SMB-00	LIMITORQUE	Documentation has been located which confirms acceptable equipment qualification.
	FCV-68-333	"	"	
	FCV-74-1	SMB-1	"	
	FCV-74-2	"	"	
	FSV-61-97	8300D58RF*	ASCO	*Per field verification, this valve has no nameplate. However, after comparing the solenoid design to models used in similar applications, the

			solenoid is considered to be an ASCO model 8300D58RF. Based on the results of a safety evaluation, TVA has concluded that failure of this component in a harsh environment should not represent a potential additional degradation to plant safety after an accident. Accordingly, per the guidelines and schedules of NUREG-0588, TVA will either obtain qualification documentation for this solenoid or replace it with a fully qualified solenoid.
FSV-77-9	206-381-3RF	ASCO	Documentation has been located which confirms acceptable equipment qualification.
FSV-61-194	"	"	
FSV-61-192	"	"	
PCV-68-334	LB831654	ASCO	Correct component numbers are PSV-68-334A/334B and PSV-68-340AA/340AB. Documentation has been located which confirms acceptable equipment qualification for interim plant operation (see response to NCR SQNEEB8023R1).
PCV-68-340A	"	"	
FSV-62-86			Deleted; this equipment is category "C" per NUREG-0588 (see response to NCR SQNEEB8027)
FSV-62-85			"
FSV-62-59			"
PDT-30-42			"
PDT-30-43			"
PS-62-247			"
TIS-62-79			"
PS-62-244			"
TIS-63-36			"
LT-68-335B			"
TIT-62-239			"
TIT-62-245			"
TIT-62-246			"
TIT-62-243			"
NIS Channel I DET: NE-31,32	WIGTD (WL-23686)	Westinghouse	Documentation has been located which confirms acceptable equipment qualificaton for interim plant operation (see response to NCR SQNEEB8023R1).
NIS Channel II DET: NE-35,36	"	"	
B/U GP A-A, Press Htr Elm.	042-05379-001	E. L. Weigan	Environmental qualification documentation for this equip-

22,24, 26, 28, 30 32,42,43,3,5,7,15, 17,19,34,36,38,7, 11,3			ment has not presently been located. However, based on the results of a safety evaluation, we conclude that failure of a heater group will not result in loss of the pressure boundary. Therefore, per the guidelines and schedules of NUREG-0588, TVA will either obtain qualification documentation for the pressurizer heaters or replace the heaters with qualified components.
B/U GP B-B, Press Htr Elem: 23,25, 27,29,31,33,41, 43,45,2,4,6,14, 16,18,35,37,39,8 10,12			"
PDT-30-44 PDT-30-45	E11BM-HSAA1	FOXBORO	Documentation has been located which verifies acceptable equipment qualification.
PT-1-12	E11GM-HSAE1	FOXBORO	Documentation has been located which verifies acceptable equipment qualification.
PT-1-27A	E11GM	FOXBORO	Documentation has been located which verifies acceptable equipment qualification.
PT-1-5	E11GM	FOXBORO	Documentation has been located which verifies acceptable equipment qualification.
PT-1-30	E11GM	FOXBORO	Documentation has been located which verifies acceptable equipment qualification.
FIS-74-12 FIS-74-24	288A "	BARTON "	See response to SQNEEB8023R1
NIS Preamps (boxes 82,80, 81, & 83)	1045F14G01	WESTINGHOUSE	Based on the results of a safety evaluation, TVA has concluded that the failure of this equipment in the harsh environment will not adversely affect the plant's ability to mitigate the event.

				Therefore, this equipment, using NUREG-0588 quidelines, meets category "C" requirements and will be deleted from the listing of essential equipment in our NUREG-0588 report.
	H2 Recombiner Sup CAB A-A & B-B	N/A	WESTINGHOUSE	Documentation has been located which confirms acceptable equipment qualification for interim plant operation (see response to NCR SQNEEB8023R1).
	PT-1-23	E11GM	FOXBORO	Documentation has been located which confirms acceptable equipment qualification.
	FCV-63-1	SMB	LIMITORQUE	See response to SQNEEB8023R1
	FCV-63-3	"	"	
	FCV-63-5	"	"	
	FCV-63-6	"	"	
	FCV-63-7	"	"	
	FCV-63-8	"	"	
	FCV-63-11	"	"	
	PT-68-68	E11GH	FOXBORO	Documentation has been located which confirm acceptable equipment qualification.
	FT-3-35A	E13DM	FOXBORO	See response to SQNEEB8023R1
	FT-3-48A	"	"	
	FT-3-103A	"	"	
	FT-3-90A	"	"	
	FT-3-35B	"	"	
	FT-3-48B	"	"	
	FT-3-90B	"	"	
	FT-3-103B	"	"	
SQNNEB8104R2	MTRB-62-230A	Boric Acid Transfer Pump A-A & B-B Motor	WESTINGHOUSE	TVA has determined that acceptable interim qualification exists for these motors. This information will be documented in the NUREG-0588 report.
	MTRB-62-232B	"	"	"
	MTRB-78-20	Refueling Water Pump B Motors	GE	See response on SQNEEB8027. This is a category "C" equipment.

MTRB-78-12A	Spent Fuel Pit Pump (A-A,B-B, C-S) Motors	WESTINGHOUSE	In previous reports, it was noted that these motors would be replaced before the end of the first refueling outage. TVA is now pursuing qualification of these motors by both analysis and results of a qualification testing program being conducted by Westinghouse.
MTRB-78-9B	"	"	"
MTRB-78-35T	"	"	"
MTRB-62-108A-A	CCP A-A & B-B Aux Oil Pump Motors	WESTINGHOUSE	TVA has determined that acceptable interim qualification exists for these motors. This information will be documented in the NUREG-0588 report. In addition, TVA is pursuing qualification of these motors by both analysis and the results of a qualification testing program being conducted by Westinghouse.
MTRB-62-104A-B	"	"	"
MTRA-74-10A	RHR Pmp A-A & B-B	WESTINGHOUSE	"
MTRA-74-20B	"	"	
Zone Switch on FCV-62-128 FCV-62-143 FCV-62-144			Delete; these components are actually valve limit switches which are already identified in this NCR.
ZS-63-1	EA-170-100	SNAPLOCK	TVA has determined that acceptable environmental qualification of these components exists on an interim basis (see response to NCR SQNEEB8023R1). These components will be replaced with qualified equipment per the guidelines and schedules of NUREG-0588.
ZS-63-67	D2400	"	
ZS-63-80	EA-170-100	"	
ZS-63-98	EA-170-100	"	
ZS-63-118	EA-170-100	"	
ZS-63-5	"		
Limit Switch on FCV-61-96	EA170-100/ EA170-100	SNAPLOCK	TVA has determined that acceptable environmental qualification of these components exists on an interim basis (see response to

			NCR SQNEEB8023R1). These components will be replaced with qualified equipment per the guidelines and schedules of NUREG-0588.
Limit Switch on			
FCV-61-110	D2400X	"	"
FCV-61-191	"	"	"
FCV 61-193	"	"	"
FCV-62-128	D2400X	"	"
FCV-62-140	"	"	"
FCV-62-143	"	"	"
FCV-62-144	"	"	"
FCV-62-69	D2400X/ EA170-100	"	"
FCV-62-70	D2400X	"	"
FCV-63-3	EA170-100	"	"
FCV-63-4	"	"	"
FCV-63-8	"	"	"
FCV-63-11	"	"	"
FCV-63-23	D2400X	"	"
FCV-63-38	"	"	"
FCV-63-41	"	"	"
FCV-63-42	"	"	"
FCV-63-64	E170-100	"	"
FCV-63-72	D2400X	"	"
FCV-63-73	D2400X	"	"
FCV-62-77	D2400X	"	"
FCV-63-84	"	"	"
FCV-63-175	"	"	"
FCV-68-305	"	"	"
FCV-68-307	"	"	"
FCV-74-3	EA170-100	"	"
FCV-74-21	"	"	"
FCV-77-10	D2400X	"	"
FCV-77-17	EA170-100	"	"
FCV-77-19	EA170-100	"	"
FCV-77-20	D2400X	"	"
*FCV-77-41			
FCV-81-12	D2400X/ EA170-302	"	" "
FCV-87-21	EA170-100	"	"
FCV-87-22	EA170-100	"	"
FCV-87-23	EA170-100	"	"
FCV-87-24	EA170-100	"	"
PCV-68-334	EA170-302	"	"
PCV-68-340A	"	"	"
LCV-62-118	EA170-100	"	Delete; these are category
TCV-62-79	D2400X	"	"C" components.

*Delete; correct number is FCV-63-41, which is already listed.

FCV-87-9	EA170-302	SNAPLOCK	TVA has determined that this equipment is not located in a potentially harsh environment resulting from an accidnet. Therefore, this equipment, using NUREG-0588 guidelines, meets Category "D" requirements.
FCV-87-10	"	"	
FCV-87-10	"	"	

Motor Operators			
FCV-63-22	SMB-0	LIMITORQUE	TVA has determined that acceptable environmental qualification of these components exists on an interim basis. This will be documented in the NUREG-0588 report. Full qualification is being pursued.
FCV-63-25	"	"	
FCV-63-26	"	"	
FCV-63-39	"	"	
FCV-63-40	"	"	
FCV-63-93	SMB-3	"	
FCV-63-94	"	"	
FCV-63-1	SMB-2	"	
FCV-63-5	SMB-00	"	
FCV-63-6	"	"	
FCV-63-7	"	"	
FCV-74-12	"	"	
FCV-74-24	"	"	
LCV-62-135	"	"	
LCV-62-136	"	"	
FCV-62-138	"	"	
FCV-63-47	"	"	
FCV-63-48	"	"	
FCV-62-63	"	"	
FCV-63-152	"	"	
FCV-63-153	"	"	
FCV-63-156	SMB-0	"	
FCV-63-157	"	"	
FCV-62-98	SMB-00	"	
FCV-62-99	"	"	
FCV-62-90	"	"	
FCV-62-91	"	"	
FCV-74-33	SMB-1	"	
FCV-74-35	SMB-1	"	
LCV-62-132	SMB-00	"	
LCV-62-133	"	"	
LCV-63-73	SMB-3	"	
LCV-63-11	SMB-1	"	
FCV-63-72	SMB-1	"	
FCV-63-8	SMB-00	"	
FCV-63-3	SMB-1	"	
FCV-63-4	SMB-00	"	
FCV-63-175	"	"	
FCV-74-3	"	"	
FCV-74-21	"	"	
FCV-87-21	"		

FCV-87-22	"	"
FCV-87-23	"	"
FCV-87-24	"	"

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