

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

July 20, 1984

BLRD-50-438/81-66

BLRD-50-439/81-65

U.S. Nuclear Regulatory Commission  
Region II

Attn: Mr. James P. O'Reilly, Regional Administrator  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

Dear Mr. O'Reilly:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - ENVIRONMENTAL QUALIFICATION OF SAFETY-RELATED ELECTRICAL COMPONENTS - BLRD-50-438/81-66, BLRD-50-439/81-65 - FIFTH INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on October 21, 1981 in accordance with 10 CFR 50.55(e) as NCRs BLN NEB 8113 through BLN NEB 8118. This was followed by our first interim report dated November 16, 1981. Related NCRs BLN NEB 8119 R2, and 8205 and BLN NEB 8203 R2 were reported in our second interim report dated May 10, 1982; NCRs BLN NEB 8208, 8209, 8211, 8213, 8214, and 8215, and GEN QAB 8204 were reported in our third interim report dated August 16, 1982; and related NCRs BLN NEB 8217 and 8218 and BLN EEB 8203 R2, 8303, 8304, 8310 8311, 8312 8313, 8314, and 8315 were reported in our fourth interim report dated August 3, 1983. Since that time, related NCRs BLN NEB 8221, BLN NEB 8302, BLN EEB 8402, BLN EEB 8405, BLN EEB 8413, BLN BLP 8328, and BLN MEB 8302 R1 have also been reported. Enclosed is our fifth interim report. We expect to submit our next report by June 21, 1985.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*DS Kammer*

*for* 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

cc: Continued on page 2

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U.S. Nuclear Regulatory Commission

July 20, 1984

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ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2  
ENVIRONMENTAL QUALIFICATION OF SAFETY-RELATED ELECTRICAL COMPONENTS  
NCRs BLN NEB 8113, 8114, 8115, 8116, 8117R2, 8118, 8119 R2,  
8205R1, 8208R1, 8209R1, 8211R2, 8213R2, 8214R1, 8215R1, 8217R2, 8218R1, 8221,  
BLN EEB 8203 R2, 8303R1, 8304R1, 8305R1, 8306R1, 8308R1, 8309, 8310, 8311R1  
8312, 8313R1, 8314R1, 8315R1, 8402, 8405, 84134  
BLN BLP 8328, BLN MEB 8302R1 AND GEN QAB 8204  
BLRD-50-438/81-66, BLRD-50-439/81-65  
10 CFR 50.55(e)  
FOURTH INTERIM REPORT

Description of Deficiency

During TVA's NUREG-0588 environmental qualification program, the components listed in Table I - Parts A and B (attached) were identified as potentially deficient because of insufficient documentation to verify that the equipment is environmentally qualified. This equipment was procured before the issuance of NUREG-0588.

Interim Progress

Since TVA's fourth interim report seven additional nonconformance reports have been issued to identify potentially unqualified equipment. Information on these NCRs is included in Table 1 along with the status of other previously reported NCRs.

Corrective actions for NCR GEN QAB 8204, which was issued to identify TVA's failure to develop procedural controls on a qualification program after the issuance of NUREG-0588 and IE Bulletin 79-01B, have been completed. These actions include the issuance of computer generated environmental drawings and revisions of the Division of Engineering Design (EN DES) Engineering Procedure (EP) 3.01, "Design Criteria Documents - Preparation, Review, and Approval," and applicable design criteria to reference these drawings (in the case of EP 3.01 additional references were included to provide for the proper usage of the environmental data during the accomplishment of procurement activities per EP 5.01, "Purchase Requisitions . . .").

TABLE 1

<u>NCR</u>	<u>TVA UNID No.</u>	<u>B&amp;W Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>
BLNNEB8113	NL-1LT-001B-B -001A-A -002A-A -002B-B	CF-LT3A2 CF-LT3A1 CF-LT3B1 CF-LT3BW	N2BQ75221X	Bailey Meter Co.	TVA has received additional documentation which verifies that this equipment is qualified. As such, no actual deficiency existed and 10CFR50.55(e) no longer applies to this item.
BLNNEB8114 (Pressure Transmitter)	NC-IPT-004B-A -004A-B	RC-PT-17-3 RC-PT-17-4	1152GP9A92PB	Rosemount, Inc.	This NCR has been closed since the two pressure transmitters are also identified in NCR BLNNEB 8119R2. TVA will discontinue reporting on this equipment under NCR BLNNEB8114.
BLNNEB8115 (Differential Pressure Transmitters)	CF-ILT-916B-B -916A-A -925A-A -925B-B	SP-LT9A2 SP-LT9A3 SP-LT9B3 SP-LT9B2	N1Q74221	Bailey Meter Co.	TVA has determined that this equipment is qualified for its intended use and that 10CFR50.55(e) no longer applies.
BLNNEB8116 (Differential Pressure Transmitter)	NL-IPT-001A-A -001B-B -002A-A -002B-B	CF-PT4A1 CF-PT4A2 CF-PT4B1 CF-PT4B2	N2KS68221	Bailey Meter Co.	This NCR has been closed since this equipment is identified in BLNNEB8119R2. TVA will discontinue reporting on this equipment under NCR BLNNEB8116.
BLNNEB8117 R2 (Resistance Temperature Detector)	NC-ITE-900A-A -902A-D -900B-A -901A-F -919B-B -917A-E -919A-B -918A-G -911B-B	RC-TE3A1 RC-TE3A2 RC-TE3A3 RC-TE3A4 RC-TE3B1 RC-TE3B2 RC-TE3B3 RC-TE3B4 RC-TE4A3	177 HW	Rosemount, Inc.	Actual test data qualified this equipment to 350°F. The current main steam line break (MSLB) temperature has a peak temperature of 370°F which decays to below 350°F in slightly over two minutes. TVA has completed a "thermal lag" analysis which shows that the actual temperature of the

TABLE 1

<u>NCR</u>	<u>TVA UNID No.</u>	<u>B&amp;W Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>
BLNNEB8117R2 (Continued)	-911A-B	RC-TE4A4	1774W	Rosemount, Inc.	temperature-sensitive material in the components is raised to only approximately 296°F during this transient period. NUREG-0588, category II requirement allows the use of analysis with partial type test data to qualify equipment. Based on this, TVA has determined that these components are qualified and, as such, 10CFR50.55(e) no longer applies to this item.
	-908A-D	RC-TE4A5			
	-926A-F	RC-TE4A7			
	-910A-E	RC-TE4A9			
	-912A-G	RC-TE4A11			
	-924B-A	RC-TE4B3			
	-924A-A	RC-TE4B4			
	-922A-D	RC-TE4B5			
	-920A-F	RC-TE4B7			
	-925A-E	RC-TE4B9			
	-923A-G	RC-TE4B11			
	-901B-F	RC-TE3A6			
	-902B-D	RC-TE3A5			
	-917B-E	RC-TE3B5			
	-918B-G	RC-TE3B6			
	-908B-D	RC-TE4A6			
	-910B-E	RC-TE4A10			
	-912B-G	RC-TE4A12			
	-920B-F	RC-TE4B8			
	-922B-D	RC-TE4B6			
	-923B-G	RC-TE4B12			
-925B-E	RC-TE4B10				
-926B-F	RC-TE4A8				
-909A-N	RC-TE4A1				
-909B-N	RC-TE4A2				
-921A-N	RC-TE4B1				
-921B-N	RC-TE4B2				
BLNNEB8118 (Differential Pressure Transmitter)	NC-IFT-907E-D	RC-FT1A1	N1BQ86221	Bailey Meter Co.	TVA has determined that these differential pressure transmitters are not necessary for the mitigation of design basis accidents and that they meet
	-907F-F	RC-FT1A2			
	-907A-E	RC-FT1A3			
	-907B-G	RC-FT1A4			
	-913E-D	RC-FT1B1			

TABLE 1

<u>NCR</u>	<u>TVA UNID No.</u>	<u>B&amp;W Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>
BLNNEB8118 (Continued)	-913F-F -913A-E -913B-G	RC-FT1B2 RC-FT1B3 RC-FT1B4			the requirements of NUREG-0588, Appendix E, category C. As such, 10CF50.55(e) no longer applies.
(Pressure Transmitter)	NC-IPT-903D -904F -906D -905F -914G -915E -916G	RC-PT2A1 RC-PT2A2 RC-PT2A3 RC-PT2A4 RC-PT2B1 RC-PT2B2 RC-PT2B3	N1KS69221	Bailey Meter Co.	Because these pressure transmitters are currently identified in NCR BLNNEB8119R2, TVA will discontinue reporting on this equipment under NCR BLNNEB8118.
BLNNEB8119 R2	NC-IPT-906-D -905-F -916-G -903-D -904-F -914-G -915-E -004A-B -004B-A -004C-B -004D-B NL-IPT-001A-A -001B-B -002A-A -002B-B  KD-ILT-003A-A -003B-B NV-ILT-004A-A 1NB-ILT-027-A 2NB-ILT-026-A	RC-PT2A3 RC-PT2A4 RC-PT2B3 RC-PT2A1 RC-PT2A2 RC-PT2B1 RC-PT2B2 RC-PT17-4 RC-PT17-3 RC-PT17-1 RC-PT17-2 CF-PT4A1 CF-PT4A2 CF-PT4B1 CF-PT4B2  Not Available Not available at this time at this time	N1KS69221       1152GP  N3KS69221  N2KS68221	Bailey Meter Co.       Rosemount  Bailey Meter Co.  Bailey Meter Co.	TVA is the process of relocating this equipment to a less harsh environment per engineering change notice (ECN) 3022.                Bailey Meter Co. TVA has determined that this equipment will be in a mild environment upon completion of ECN 1579 which concerns relocating the startup and

TABLE 1

<u>NCR</u>	<u>TVA</u> <u>UNID No.</u>	<u>B&amp;W</u> <u>Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>
BLNNEB8119R2 (Continued)	KE-IFT-962B-A -965B-B -968B-B				recirculation system.
	KC-ILT-004-A -005-B -006-A -007-B				
	NV-IPT-004-A -IFT-841-A -842-B -848-A -849-B -844-A -845-A -846-B -847-B				
	NS-ILT-003A-A -003B-B -IFT-900-A -901-B				
	ND-IFT-902-B -907-A				
	CF-ILT-916A-A -916B-B -925A-A -925B-B				This equipment was listed in the original NCR to document a potential radiation qualification deficiency. However, TVA has determined that no such deficiency exists, and 10CFR50.55(e) no longer applies to these items.
	NC-ILT-004A-D -004B-E -004C-F -004D-G -004E-A -004F-B -951-B				

TABLE 1

<u>NCR</u>	<u>TVA UNID No.</u>	<u>B&amp;W Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>	
BLNNEB8119R2 (Continued)	-952-B					
	-953-A					
	-954-B					
	-001A-A					
	-001B-B					
	-002A-A					
	-002B-B					
	NS-IPT-904-D					
	-905-F					
	-906-G					
	NC-IFT-907A-E			N1BQ86221	Bailey Meter Co.	TVA has determined that this equipment is not required for the mitigation of a design basis accident and that they meet the requirements of NUREG-0588, Appendix E, Category C. As such, 10CFR50.55(e) no longer applies.
	-907B-G					
	-907E-D					
-907F-F						
-913A-E						
-913B-G						
-913E-D						
-913F-F						
SM-IPT-901A-B						
-901B-A						
-902A-B						
-902B-A						
SM-IPT-903D					This equipment was originally reported on under NCR BLNNEB8119, but because they are also identified in NCR BLNNEB8214, TVA is deleting these items from 8119 and will report on them under 8214.	
-904G						
-905F						
-910D						
-911G						
-912F						



TABLE 1

<u>NCR</u>	<u>TVA UNID No.</u>	<u>B&amp;W Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>
BLNNEB8119R2 (Continued)	NC-IEB-004A-A				TVA will delete this item. This item was erroneously listed. No component with this UNID number exists.
BLNNEB8205R1	NS-EMOT-001-A -002-B	N/A	500 HP	Siemens-Allis	This equipment has been qualified by S-A test report NQ-8-90396-1, RO. As such, 10CFR50.55(e) no longer applies to these motors.
	ND-EMOT-001-A -002-B	N/A	700 HP	Westinghouse	TVA is still seeking vendor confirmation of the qualification on these motors.
	NV-EMOT-001-A -002-A -003-B		900 HP		
	KC-EMOT-001-A -002-B -003-A	N/A			This equipment will be in a mild environment when the startup and recirculation system is moved in accordance with ECN 1579.
	ND-EMOT-216-A -221-B	N/A			TVA has determined that this equipment is not required for the mitigation of design basis accidents and meets the requirements of NUREG-0588, Appendix E, Category C. As such, 10CFR50.55(e) no longer applies to these motors.
	NV-EMOT-838-B -856-A -858-A -860-A				
BLNNEB8208R1	VJ-EMOT-034-B -035-A -036-B	N/A	150/75 HP	Reliance	TVA has determined that this equipment is environmentally qualified and 10CFR50.55(e) no longer applies to these motors.

TABLE 1

<u>NCR</u>	<u>TVA UNID No.</u>	<u>B&amp;W Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>
BLNNEB8209R2	ND-IFCV-192-B	DH-HV-9B	SB-005-15	Limitorque	This equipment will be in a mild environment for which it is qualified upon completion of ECN 1579. This ECN deals with the relocation of the startup and recirculation system.
	NV-IFCV-077-A	MU-HV-49A	SB-00-25		
	-419-B	-47B	Unknown		
	-450-A	-47A			
	KC-IFCV-147-A	CC-HV-22	SMB-00-5	Limitorque	
	-212-A	CC-HV2			
	ND-IFCV-010-A	DH-HV-7A	SMB-005-15		
	-104-B	-7B			
	NV-IFCV-101-A	MU-HV-51A	SMB-00-7.5		
	-113-A	-51B			
-213-B	-51C				
-225-B	-51D				
-411-B	-49B	SMB-00-25			
	KD-IFCV-045-B				Because these two operators are not NSSS supplied they have been deleted from NCR BLNNEB8209R2. They are now identified under NCR BLNMEB8302R1.
	KD-IFCV-054-A				
BLNNEB8211R2	CA-IZS-052A-B	None	EA170-100	Namco	Upon completion of the relocation of the startup and recirculation system (ECN 1579) this equipment will be in a mild environment.
	-052B-B				
	-053A-A				
	-053B-A				
	WL-IZS-067A-A				
-067B-A					
	NV-IZS-119A-A			Namco	TVA has determined that this equipment is not required to
	119B-A				

TABLE 1

<u>NCR</u>	<u>TVA</u> <u>UNID No.</u>	<u>B&amp;W</u> <u>Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>
BLNNEB8211R2 (Continued)	CA-IZS-062A-B				mitigate any design basis accident and meets the requirements of NUREG-0588, Appendix E, Category C. As such, 10CFR50,.55(e) no longer applies to these zone switches.
	-062B-B				
	-063A-A				
	-063B-A				
	ND-IZS-064A-A				
	-064B-A				
	-158A-B				
	-158B-B				
	-040A-A				
	-040B-B				
	-134A-B				
	-134B-B				
	KC-IZS-230A-A				
	-230B-A				
	-235A-B				
	WL-IZS-091A-A				
	-091B-A				
	-121B-A				
	NF-IZS-036A-A				
	-036B-A				
NL-IZS-076-A				This zone switch is not a safety-related switch and has been downgraded from its class 1E status. 10CFR50.55(e) no longer applies to this switch.	
BLNNEB8213R1	NC-IFCV-010-A	RC-HV2	SMB-00-10	Limitorque	TVA has determined that this equipment, which is located inside containment, has sufficient documentation to verify its operability in a postaccident environment. However, an interface problem with the Solid State Control System (SSCS)
	-062-B	CF-HV5A			
	-064-A	CF-HV5B			
	NV-IFCV-062-B	MU-HV37A	SMB-00-5		
	-065-B	-HV37B			
	-068-B	-HV37C			
	-071-B	-HV37D			

TABLE 1

<u>NCR</u>	<u>TVA UNID No.</u>	<u>B&amp;W Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>	
BLNNEB8213R1 (Continued)	-022-B	MU-HV1C	SMB-00-10		must be evaluated to determine if these actuators are affected. TVA will discontinue reporting under this NCR and will provide information on the interface problem under NCR BLNBLP8328.	
	-026-B	-HV2A				
	-029-B	-HV1D				
	-033-B	-HV2B				
	KC-IFCV-148-B	CC-HV24	SMB-000-05			
	-211-B	CC-HV1				
	KC-IFCV-053-B			Limitorque		TVA has determined that this equipment is not part of the NSSS package and to facilitate disposition, this equipment is now identified in NCR BLNNEB8302R1. TVA will report on this equipment under that NCR number.
	NC-IFCV-057-A					
NL-IFCV-076-A						
NL-IFCV-079-B						
WL-IFCV-068-B						
WL-IFCV-090-B						
WG-IFCV-011-B						
	NC-IFCV-012-A				TVA has been notified by B&W that this valve operator is no longer incorporated in the plant design, and will not be installed.	
BLNNEB8214R1	KC-IFT-006A	CC-FT21A	N2BQ74221	Bailey Meter Co.	This equipment will be in a mild environment upon relocation of the startup and recirculation system.	
	KE-IFT-962B-A	RBC-FT1A2				
	NV-ILT-004A-A	MU-LT16-2				
	KD-ILT-003A-A	CC-LT11-1	N2BQ73221			
	NV-IFT-844A	MU-FT30A	N2BQ85221			
	-845A	MU-FT30B				
	-846B	MU-FT30C				
	-847B	MU-FT30D				
	NS-ILT-003B-B	RBS-LT11-2	N2BQ75221			
	NV-IFT-841A	MU-FT50A	N2BQ86221			
	-848A	MU-FT50C				
	-IPT-004A	MU-PT21				

TABLE 1

<u>NCR</u>	<u>TVA UNID No.</u>	<u>B&amp;W Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>
BLNNEB8214R1 (Continued)	SM-IPT-901A-B	SP-PT12A1	N2KS69221	Bailey Meter Co.	TVA has determined that this equipment is not necessary for the mitigation of any design basis accident and meets the requirements of NUREG-0588, Appendix E, Category C. As such, 10CFR50.55(e) no longer applies.
	-901B-A	2			
-902A-B	B1				
-902B-A	2				
	SM-IPT-903-D	SP-PT12A3	N2KS69221	Bailey Meter Co.	
	-904-G	4			
	-905-F	5			
	-910-D	B3			
	-911-G	4			
	-912-F	5			
BLNNEB8215R1 (Neutron Detectors)	IP-IXE-005-D	NI-5-NT	WL-24061	Westinghouse	TVA has determined that this equipment is not necessary for the mitigation of any design basis accident and meets the requirements of NUREG-0588, Appendix , Category C. As such, 10CFR50.55(e) no longer applies to these detectors.
	-006-E	NI-6-NT			
	-007-F	NI-7-NT			
	-008-G	NI-8-NT			
BLNNEB8217R2 (Electromatic Transducers)	CA-ILM-052B-B	SP-FY19B	546	Fisher	TVA has determined that this equipment will be in a mild environment upon relocation of the startup and recirculation system.
	-053B-A	SP-FY19A			
	-062B-B	SP-FY18A			
	KC-IFM-230-A	CC-FY28A			
	-235-B	CC-FY28B			
	ND-IFM-040B-A	AH-FY14A			
	-064B-A	AH-FY3A			
	-134B-B	AH-FY14B			
	-158B-B	AH-FY3B			

TABLE 1

<u>NCR</u>	<u>TVA UNID No.</u>	<u>B&amp;W Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>
BLNNEB8217R2 (Continued)	NV-IFM-143B-A	MV-FY30A2			
	-155B-A	MV-FY30B2			
	-167B-B	MV-FY30C2			
	-179B-B	MV-FY30D2			
	CA-ILM-063B-A		546	Fisher	TVA has determined that this equipment is not necessary for the mitigation of any design basis accident and this equipment meets the requirements of NUREG-0588, Appendix E, Category C. As such, 10CFR50.55(e) no longer applies.
	NV-IFM-050B-A				
	SM-IPM-039-B				
	-052-A				
BLNNEB8218R1	NS-EMOT-001-A	NA		Siemen-Allis	
	-002-B				
	ND-EMOT-216A		SK143FL1705	General Electric	TVA has determined that these motors are already identified in NCR BLNNEB8205R1 and will discontinue reporting on the motors under this NCR.
	-221B				
	NV-EMOT-838-B				
	-858-A				
	-860-B				
	KC-EMOT-001-A	NA		Allis-Chalmers	
	-003-A				
BLNNEB8221	NV-IFCV-065-B	MU-HV37B	SMB-000	Limitorque	TVA has determined that this equipment is not qualified for submergence and has issued ECN 2863 to move these valves above the maximum LOCA flood level.
	-071-B				
	-068-B				
BLNEEB8203R2	IX-ILPR-001-D	NA	Type EF	York Electro-	TVA has determined that for this type conduit the threshold of failure is $5.5 \times 10^5$ rads TID, and has identified the fact that
	-002-A		Flexible	Panel Control	
	-003-F		Conduit		
	-004-E				

TABLE 1

<u>NCR</u>	<u>TVA UNID No.</u>	<u>B&amp;W Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>
BLNEEB8203R2 (Continued)	-005-B -006-G				the threshold of failure would be exceeded only during a LOCA, and only affect conduit sections inside containment. These sections will be replaced by qualified stainless steel conduit per ECN 1596.
BLNEEB8303R1 (Level Sensors)	ND-ILE-908C-A -908D-A -908E-A -909A-B -909B-B -909C-B -909D-B -909E-B -908A-A -908B-A	NA	XM36495	Delaval	TVA is the process of replacing these devices.
BLNEEB8304R1 (Level Sensors)	WE-ILE-965-A -967-B	NA	XM36495	Delaval	TVA is in the process of replacing these devices.
(Level Transmitters)	WE-ILT-965-A -967-B		36400 series		TVA is in the process of replacing these devices.
BLNEEB8305R1 and BLNEEB8306R1 (Level Transmitters)	VB-IFS-001-A -002-B -009-A -010-B	NA	LT-80	Fluid Components, Inc.	TVA has determined that this equipment is not necessary for the mitigation of any design basis accident and that they meet the requirements of NUREG-0588, Appendix E, Category C. As such, 10CFR50.55(e) no longer applies to this equipment.
and (Differential Pressure Transmitters)	VB-IDT-001-A -002-B	NA	Veltron Series 2000	Air Monitor	

TABLE 1

<u>NCR</u>	<u>TVA UNID No.</u>	<u>B&amp;W Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>
BLNEEB8308R1 (Solenoid Valves)	CF-IFSV-068-A -070-A	NA	V70900-36	Valcor Engineering Corporation	TVA is in the process of determining the corrective action needed for this equipment (corrective action is dependent on resolution of NCR BLNEEB8307 which is being separately reported).
(Limit Switches)	CF-IZS-068A-A -068B-A -070A-A -070B-A	NA	EA740	Namco	
BLNEEB8309 (I/P Transducers)	VA-IDM-008B-A -009B-A -014B-A -015B-A -028B-B -129B-B -130B-B -131B-B		445-B1	Robertshaw	The postulated accident dose this equipment is expected to see is currently $2.5 \times 10^3$ rads and TVA is reviewing equipment qualification documentation to determine the suitability of this equipment.
BLNEEB8310 (I/P Transducers)	VX-IDM-011-A -012-B		445-B1	Robertshaw	These transducers are located inside the reactor building where the maximum gamma radiation dose is expected to be $3.6 \times 10^3$ rads, and the beta dose is expected to be $3 \times 10^4$ rads. TVA is determining if the equipment will be qualified to this dose or if it will have to be relocated.
BLNEEB8311R1 (Solenoid Valves)	CF-IFSV-069A-A -069B-B -071A-A -071B-A	NA	WJHVA-206- 380-5F-M0	Automatic Switch Co.	TVA is in the process of determining the corrective actions required to resolve BLNEEB8311 and 8312 (these actions are



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<u>NCR</u>	<u>TVA</u> <u>UNID No.</u>	<u>B&amp;W</u> <u>Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>
BLNEEB8311R1 (Continued)	KE-IFSV-100-B -107-B -195-A -202-A				dependent on the resolution of NCR BLNBLP8324 which is being separately reported).
(Limit Switches)	CF-IZS-069E-A -071E-A -069A-A -069B-A -071B-A -071E-A		EA-740	Namco	
BLNEEB8312 (Solenoid Valves)	RI-IFSV-361-A -369-B		WJHVA-206- 380-5F-MO	Automatic Switch Co.	
(Limit Switches)	-IZS-361A-A -361B-A -369A-B -369B-B		EA-740-20100	Namco	
BLNEEB8313R1 (Devices that have TVA Terminal Blocks)	CF-EJBS-1-B SM-EJBX-1-A -2-A -3-B -4-B -11-B -9-A -12-B -10-A CF-EJBX-2-B CF-EJB-2-A	NA	Not Available	Not Available	TVA has issued ECN 2868 to replace or eliminate the terminal blocks classified as NUREG-0588, Appendix E, Category B devices.



TABLE 1

<u>NCR</u>	<u>TVA</u> <u>UNID No.</u>	<u>B&amp;W</u> <u>Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>	
BLNEEB8315R1 (Continued)	NC-IFSV-968B-A					
	NC-IFSV-969A-B					
	NC-IFSV-969B-B					
	NC-IFSV-970A-A					
	NC-IFSV-970B-A					
	NC-IFSV-971A-B					
	NC-IFSV-971B-B					
	NK-IFSV-126-A			77DD-038	Target Rock	
	NK-IFSV-127-B					
	NK-IFSV-129-A					
	NK-IFSV-130-B					
	NK-IFSV-131-G					
	NK-IFSV-132-A					
	NK-IFSV-133-B					
	NK-IFSV-135-A					
	NK-IFSV-136-B					
	NK-IFSV-137-F			77DD-039		
	NL-IFSV-904A-A					
	NL-IFSV-904B-A					
	NL-IFSV-905A-B					
	NL-IFSV-905B-B					
	NL-IFSV-906A-A					
	NL-IFSV-906B-A					
	NL-IFSV-907A-B					
	NL-IFSV-907B-B			77DD-035		
	NO-IFSV-010-A					
	NO-IFSV-011-B			77DD-039		
	NS-IFSV-902-A					
	NS-IFSV-903-B					
	NS-IFSV-904-A					
	NS-IFSV-905-F					
	NS-IFSV-906-B					
NV-IFSV-586						
VH-IFSV-901-A						

TABLE 1

<u>NCR</u>	<u>TVA UNID No.</u>	<u>B&amp;W Comp. No.</u>	<u>Model</u>	<u>Manufacturer</u>	<u>Corrective Action/Resolution</u>
BLNEEB8315R1 (Continued)	VH-IFSV-902-B YQ-IFSV-520-B YQ-IFSV-530-B		Unknown		
BLNEEB8402 (Flow Transmitters)	SA-IFT-901A-A -901B-B -914A-A -914B-B	NA	E13DM	Foxboro	These transmitters are located in the auxiliary building, zone 46A, and are not qualified to the postulated maximum accident temperature of 248°F. TVA is in the process of replacing these transmitters.
BLNEEB8405	Unknown at this time	NA	Unknown	Unknown	TVA has determined that electrical cables in the east steam valve vault do not have documentation which verifies their qualification to meet the current high energy line break (HELB) environment. TVA is currently determining the corrective actions necessary to resolve this deficiency.
BLNEEB8413 (Magnetic Starters)	VA-ECMS-305-F VA-ECMS-312-G	NA	P21	Gould	Because these starters lack qualification documentation, TVA is proceeding to relocate this equipment to a mild environment.
BLNMEB8302R1	KD-IFCV-045-B -053-B -054-A NC-IFCV-057-A NL-IFCV-076-A -079-B WG-IFCV-011-B	NA		Limitorque	TVA is in the process of determining whether documentation verifying environmental qualification is obtainable.

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BLNMEB8302R1 (Continued) BLNBLP8328	WL-IFCV-068-B -090-B Unknown at this time			Limitorque	This NCR identifies an interface problem between the control leads of the Limitorque valve actuators inside containment and the resistance requirements of TVA's SSCS. The Limitorque test report on qualification to a LOCA environment listed the varying resistance of its control leads with respect to time. At various times (from 4.2 hrs to 95.5 hrs into the test) the resistances of the majority of the control leads decreased from 400K ohms to 2K ohms. If the insulation value of the loads fall below 20K ohms, the SSCS could interpret this decrease as a closed contact even though the contact itself was still open. TVA is investigating this matter to determine which actuators could be adversely affected and will provide additional information in our next report.