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 RECIP. NAME: VARGA, S.A. RECIPIENT AFFILIATION: Operating Reactors Branch 1

SUBJECT: Forwards drawing review for electrical interactions between safety-related & nonsafety-related equipment, per 840120 commitment to resolve deficiencies in SER/technical evaluation rept. Summary of revs to master list also encl.

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**WISCONSIN PUBLIC SERVICE CORPORATION**

P.O. Box 1200, Green Bay, Wisconsin 54305

October 17, 1984

Director of Nuclear Reactor Regulation  
 Attention: Mr. S. A. Varga, Chief  
 Operating Reactors Branch No. 1  
 Division of Licensing  
 U.S. Nuclear Regulatory Commission  
 Washington, D.C. 20555

Dear Mr. Varga:

Docket 50-305  
 Operating License DPR-43  
 Kewaunee Nuclear Power Plant  
 TAC No. 42465  
 Final Resolution of Environmental Qualification of Electric Equipment  
 Important-To-Safety

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- References:
- 1) Letter to S. A. Varga of the NRC from C. W. Giesler of WPSC dated March 16, 1984
  - 2) Letter to C. W. Giesler of WPSC from S. A. Varga of the NRC dated February 2, 1983
  - 3) "Radiation Effects on Organic Materials in Nuclear Power Plants", EPRI NP-2129, November 1981
  - 4) Letter to C. W. Giesler of WPSC from S. A. Varga of the NRC dated September 11, 1984
  - 5) Letter to S. A. Varga of the NRC from C. W. Giesler of WPSC dated April 22, 1983
  - 6) Letter to S. A. Varga of the NRC from C. W. Giesler of WPSC dated August 2, 1982

Reference 4, transmitted the NRC's final Safety Evaluation Report (SER) on the environmental qualification of electrical equipment important-to-safety at the Kewaunee Nuclear Power Plant (KNPP). It concluded that WPSC's environmental qualification program for electrical equipment complies with the requirements of

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10 CFR 50.49 "Environmental Qualification of Electric Equipment Important-to-Safety for Nuclear Power Plants." It also requested that we: 1) submit a letter stating that all equipment within the scope of the rule has been identified and is environmentally qualified, and 2) immediately inform the NRC of any electrical equipment within the scope of the rule found to be outside its requirements.

Enclosure 2 of Reference 1, contained the Master List of electrical equipment within the scope of the rule at the KNPP as of March 16, 1984. Continued refinement of this list has resulted in several changes as noted in Enclosures 1 and 2 of this letter. To the best of my knowledge, this Master List, as revised by Enclosure 2, is a complete listing of all electrical equipment that falls within the scope of the rule (10 CFR 50.49). In addition, to the best of my knowledge, all of this equipment is environmentally qualified in accordance with the rule (10 CFR 50.49) with the exceptions noted in Enclosure 1 to this letter. It should be noted, that future updates to this list will not be submitted unless otherwise requested.

Reference 1, documented the minutes from the meeting between WPSC and the NRC held on January 20, 1984, to discuss the resolution of deficiencies identified in the NRC's earlier SER/TER on the environmental qualification of safety-related electrical equipment at the KNPP (Reference 2) and other matters related to this issue. Included in this submittal was a discussion of the methodology used to develop the master list of electrical equipment important-to-safety, as defined in 10 CFR 50.49(b), for the KNPP.

During this meeting, WPSC was requested to perform a review of electrical schematics and/or wiring diagrams to determine if any electrical interactions

could occur between safety-related and nonsafety-related equipment which could prevent the satisfactory accomplishment of safety functions. WPSC committed to perform this review by the end of August, 1984 (Reference 1). This letter documents the results of this review and fulfills our commitment. At the request of our Project Manager, the report of our review was delayed to correspond with this response to the final SER (Reference 4).

We have reviewed the schematics and/or wiring diagrams for the equipment items included on our Master List in order to:

- 1) Identify any auxiliary devices electrically connected into the control or power circuitry of equipment within the scope of 10 CFR 50.49(b)(1) whose failure due to postulated environmental conditions could prevent required operation of the safety-related equipment, and;
- 2) Identify any nonsafety-related circuits indirectly associated with 10 CFR 50.49(b)(1) equipment by common power supply.

Over 500 schematics and 100 wiring diagrams were reviewed for this purpose. Wiring diagrams were used in those cases where no schematics existed or the schematic did not identify the physical location of a component.

All components were traced back to their first source of electrical fault protection (e.g. fuse or circuit breaker). Circuit breakers rather than motor starters were considered the first source of electrical fault protection for motors in order to ensure that all the starter control circuitry was considered. The starter control circuitry was traced back to its

associated control power fuse. Components identified by the review were evaluated for the potential to create adverse electrical interactions post-accident.

Several deficiencies have been discovered and are discussed in Enclosure 1 of this letter. The affected equipment on our Master List, the resolution for each deficiency and justification for continued plant operation until the end of the 1985 refueling outage is also provided in Enclosure 1. All of the design change requests discussed under the resolution to each deficiency are currently planned for implementation prior to the end of the KNPP 1985 refueling outage. Should any further problems develop that may jeopardize this schedule (e.g. design problems, procurement lead times, installation problems, etc.), we will notify you promptly.

A request for an extension of the deadline for final environmental qualification of electric equipment important-to-safety in accordance with 10 CFR 50.49(g) and the notification required by 10 CFR 50.49(h) is included in Enclosure 1.

Reference 1, also contained a discussion of the design basis accidents considered in the development of our Master List (Page 6, Paragraph 3). All design basis accidents, including flooding outside containment, were considered in the development of this list.

Further clarification should be made with respect to the final SER on the environmental qualification of electrical equipment important-to-safety at the KNPP (Reference 4). WPSC has committed significant resources, both in time and money, to identify and environmentally qualify all of the equipment items

Mr. S. A. Varga  
October 17, 1984  
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included on our Master List in accordance with the rule (10 CFR 50.49). In addition, the KNPP Environmental Qualification Plan has been developed and implemented in order to ensure continued compliance. However, not all of the maintenance requirements and replacement schedules have been documented in plant procedures. This effort is still in progress and is expected to be completed by January 1, 1986.

To the best of my knowledge, the information in this letter is true and accurate. Due to the length of this submittal, enclosed please find an additional twenty-five (25) copies of this transmittal.

Very truly yours,



D. C. Hintz *for*  
Manager - Nuclear Power

JGT/jks

Attach.

cc - Mr. Robert Nelson, US NRC

Enclosure 1

To

Letter to Mr. S. A. Varga of the NRC from Mr. D. C. Hintz of WPSC

Dated October 17, 1984

Drawing Review for Electrical Interactions Between Safety-Related  
and Nonsafety-Related Equipment (10 CFR 50.49(b)(2))

Drawing Review for Electrical Interactions between Safety-Related  
and Nonsafety-Related Equipment (10 CFR 50.49(b)(2))

Several deficiencies have been discovered in which potential adverse electrical interactions between safety-related and nonsafety-related equipment may occur post-accident. A description of each deficiency, the affected equipment on our master list, the resolution for each deficiency and justification for continued plant operation until the end of the 1985 refueling outage is provided below.

A request for an extension of the deadline for final environmental qualification of electric equipment important-to-safety in accordance with 10 CFR 50.49(g) and the notification required by 10 CFR 50.49(h) is also provided.

10 CFR 50.49(g) Extension Request and 10 CFR 50.49(h) Notification

Extension of the completion date provided in 10 CFR 50.49(g) is required for the equipment on the Master List in which the potential for adverse electrical interactions, post-accident, has been identified by this review. The second refueling outage after March 31, 1982, at the KNPP began on March 17 and ended May 14, 1983. WPSC requests an extension until the end of the fourth refueling outage after March 31, 1982, for the KNPP (e.g. approximately the end of April, 1985). Notification has been made within the time frame provided in 10 CFR 50.49(h) through discussions with the staff.

A) Shield Building Vent System - Damper Actuator Transformers

1) Affected Equipment on Master List:

Damper Actuator	-	32382 (1-423)	
		32383 (1-424)	
		32384 (1-425)	
		32385 (1-431)	
		32386 (1-182)	
		32387 (1-198)	
Transformers	-	19708	
		19709	
		19710	
		19711	
		19712	
		19713	
Limit Switches	-	3238201	3238202
		3238301	3238302
		3238401	3238402
		3238501	3238502
		3238601	3238602
		3238701	3238702
Differential Pressure Switches	-	16416	
		16417	

2) Deficiency:

The circuitry for each of the damper actuators listed above contains a 120/24 VAC transformer. These transformers are located in a harsh post-accident radiation environment ( $\leq 8.8E5$  Rad's TID). They were not previously identified and their environmental qualification status is unknown.

The most likely failure mode would be a short circuit or ground in the transformers. Should one of these transformers fail post-accident it could blow the fuse in the power supply, deenergizing all of the components powered from the same source. This would result in the failure of all three damper actuators in the affected train, which fail closed on a loss of electrical power, and the loss of their associated position indication.

3) Resolution:

These damper actuators are currently planned for replacement prior to the end of the 1985 refueling outage. Their associated transformers, if still required, will be replaced under the same design change request (DCR-1433) with environmentally qualified models or relocated in a mild post-accident environment. The transformers will be added to our Master List of equipment (e.g. within the scope of 10 CFR 50.49) at this time and deleted later if they are not required or relocated in a mild post-accident environment (Enclosure 2).

4) Justification for Continued Operation:

The purpose of the Shield Building Vent (SBV) System is to collect and filter fission products which could leak into the annular space between the steel containment vessel and the concrete shield building post-accident. It is designed to produce a slight negative pressure in the annulus, to dilute containment leakage into this area through mixing and to filter any containment leakage prior to exhausting it through the reactor building stack.

The affected damper actuators, limit and differential pressure switches are qualified for their harsh post-accident radiation environment in accordance with the DOR Guidelines. Justification for continued plant operation until the end of the 1985 refueling outage is given below.

- (a) The SBV system is required to operate only during a LOCA, an extremely low probability and thus highly unlikely event.
- (b) The probability that any of the transformers would fail as a result of their radiation environment is extremely low.

Although we cannot obtain a list of organic materials used in manufacturing the transformers, it is reasonable to assume that the insulating material is an epoxy based resin. Both the DOR Guidelines (Table C-1) and Reference 3 support a radiation damage threshold for epoxy based resins ( $2E8$  Rad's TID) several orders of magnitude greater than the applicable post-accident dose ( $\leq 8.8E5$  Rad's TID).

- (c) Reference 3 also states that a dose less than  $1E5$  Rad's TID produces no significant degradation of mechanical or electrical properties in organic materials, except for Teflon which has a radiation damage threshold of  $1E4$  Rad's TID. The time after an accident at which the transformers would receive the threshold dose of  $1E4$  Rad's TID has been estimated to be greater than 24 hours.
- (d) The measured containment building leak rates from the Integrated Leak Rate Tests have been significantly below the FSAR assumptions of 2.5 wt %/day for the first 24 hours and 1.25 wt %/day for the next 29 days (0.0162 in 1984, 0.037 in 1980, 0.0584 in 1977, and 0.0484 in 1973, all expressed in wt %/day at the 95% confidence level).
- (e) In the highly unlikely event of a LOCA, the primary containment building pressure exceeds the annulus pressure for a brief period of time (e.g. less than 24 hours), after which there is no significant differential pressure to drive leakage.

B) Shield Building/Auxiliary Special Vent Systems -  
Filter Heater Control Circuitry

1) Affected Equipment on Master List:

Heaters	-	1-238
		1-239
		1-449
		1-450
Temperature Switches	-	1639801
		1639802
		1639901
		1639902

2) Deficiency:

Most of the control circuitry for each of these heaters is mounted in panels on the filter assemblies. This circuitry is located in a harsh post-accident radiation environment ( $\leq 3.2E6$  Rad's TID). It was not previously identified and its environmental qualification status is unknown.

All of the control circuitry for each of these heaters, including their corresponding temperature switches, is powered from the same circuit breaker as the heater itself. The most likely failure mode would be a short circuit or ground in the control circuitry which would blow the control power fuse and deenergize the heater.

3) Resolution:

A design change request has been initiated (DCR-1546) to environmentally qualify or relocate in a mild post-accident environment the essential control circuitry for each of these heaters. The remaining circuitry will be modified to preclude any adverse electrical interactions. This design change is currently planned for implementation prior to the end of the 1985 refueling outage. No changes to our Master List of equipment (e.g. within the scope of 10 CFR 50.49) are required at this time. If the essential control circuitry is environmentally qualified rather than relocated it will be added to our Master List after the completion of the modification.

4) Justification for Continued Operation:

The purpose of the Shield Building Vent (SBV) System was described above under Section "A". The Auxiliary Special Vent (ASV) System serves a similar purpose. It is designed to collect any potential containment leakage which might bypass the shield building annulus into the auxiliary building special vent zone, by maintaining this area at a slight negative pressure, and filter it before it reaches the environment.

The heaters are installed before the charcoal filters in order to ensure that the relative humidity of the air being filtered does not exceed 70%. Their associated temperature switches and humidity sensors provide high temperature protection and alert the operators of a high

humidity condition in the filters, respectively. Increased relative humidity in the air being filtered may decrease the efficiency of the charcoal filters.

The electrical heaters and their associated temperature switches are qualified for their harsh post-accident radiation environment in accordance with the DOR Guidelines. Justification for continued plant operation until the end of the 1985 refueling outage is given below.

- (a) The SBV and ASV filters are required to operate only during a LOCA, an extremely low probability and thus highly unlikely event.
- (b) Although the efficiency of the charcoal filters may be decreased, they would still significantly reduce the concentration of radioactive Iodine in the air prior to release.
- (c) Same justification for continued operation as previously given under Section "A.4-d".
- (d) In the highly unlikely event of a LOCA, the primary containment pressure exceeds the annulus and auxiliary building special vent zone pressure for a brief period of time (e.g. less than 24 hours), after which there is no significant differential pressure to drive leakage.

C) Main Steam and Steam Dump - MSIV Test Panels and  
Main Steam Dump to Condenser

1) Affected Equipment on Master List:

Limit Switches	-	3101501	3101502
		3101601	3101602

2) Deficiency:

The main steam isolation valves (MSIV's) test panels and the control circuitry for the main steam dump to condenser are powered from the same sources as the MSIV's position indication. This equipment is located in a harsh post-accident environment. It was not previously identified and its environmental qualification status is unknown.

The most likely failure mode would be a short circuit or ground in the test panels or control circuitry, which would blow the fuses in the power supply's. This would deenergize all of the equipment powered from the same source including the MSIV's position indication.

3) Resolution:

A design change request (DCR 1548) has been initiated to electrically isolate the MSIV's test panels and main steam dump to condenser control circuitry from the MSIV's position indication. This design change is currently planned for implementation prior to the end of the 1985 refueling outage. No changes to our Master List of equipment (e.g. within the scope of 10 CFR 50.49) are required.

4) Justification for Continued Operation:

The MSIV's test panels were originally designed to allow dip testing of the MSIV's during full power operation. However, they are no longer used for testing because of the possibility that the MSIV's may slam shut when they are dipped into the flow stream. The main steam dump to the condenser provides an artificial load for the primary side of the plant during certain anticipated transients, such as loss of load or reactor trip.

All four limit switches are environmentally qualified for their harsh post-accident environment. Justification for continued plant operation until the end of the 1985 refueling outage is given below.

- (a) The failure of these limit switches post-accident will not mislead the operators or reverse or degrade any safety-related functions.
- (b) Redundant environmentally qualified instrumentation is available to the operators to verify the position of the MSIV's (e.g. S/G Pressure and Steam Flow).
- (c) These limit switches are only required for a HELB and LOCA. Both of these events have an extremely low probability and thus are highly unlikely to occur.

D) Residual Heat Removal System - Containment  
Sump "B" Level Indication

1) Affected Equipment on Master List:

Solenoid Valves - 33378  
33379

Limit Switches - 3139301 3139302  
3139401 3139402

2) Deficiency:

Both containment sump "B" level switches are powered from the same source as the solenoid valves for the caustic additive discharge control valves and their associated position indication. These level switches are located in a harsh post-accident environment. The most likely failure mode would be a short circuit or ground. Should these level switches fail post-accident they could blow the fuse in the power supply, deenergizing all of the equipment powered from the same source.

These solenoid valves were originally designed to fail the caustic additive control valves in the open position upon a loss of electrical power, which would satisfy their safety-related function. However, several accidental openings of these valves upon a loss of electrical power resulted in the discharge of caustic into the ICS System piping and the violation of our Technical Specification for the minimum volume required in the caustic additive tank (TS 3.3.6.1.A). Therefore, a design change request was initiated to modify this design.

DCR-942 replaced these solenoid valves with environmentally qualified models, and modified their associated control valve failure mode on a loss of electrical power to the closed position. This arrangement would prevent the addition of caustic to the spray solution upon an actuation of the ICS System should the containment sump "B" level switches fail and blow the fuse in the power supply.

3) Resolution:

A design change request has been initiated (DCR 1549) to electrically isolate the containment sump "B" level switches from these solenoid valves and limit switches. This design change is currently planned for implementation prior to the end of the 1985 refueling outage. No changes to our Master List of equipment (e.g. within the scope of 10 CFR 50.49) are required.

4) Justification for Continued Operation:

The ICS system was designed to provide post-accident containment heat removal in order to limit the containment vessel pressure transient. The addition of caustic adjusts the pH of the initial spray solution and later the recirculation fluid to a value that will prevent chloride stress corrosion cracking of the austenitic steel components within the containment. Justification for continued plant operation until the end of the 1985 refueling outage is given below.

- (a) Containment heat removal is still provided by the ICS System. Even if the level switches fail and blow the

fuse in the power supply to these solenoid valves only the addition of caustic is prevented.

- (b) Test data has shown that no significant chloride stress corrosion cracking will occur provided the pH of the spray solution is adjusted by the addition of caustic within 2 days of an accident. (1) This provides sufficient time to electrically isolate the level switches from the circuit by lifting their associated conductors, replace the fuse, and open the caustic additive discharge control valves.
- (c) No credit is taken for the scrubbing of fission products from the containment atmosphere by the ICS System in the analysis of the Design Basis Accident.
- (d) Loss of the associated position indication for the control valves will not mislead the operators. With both lights extinguished the operator will conclude either: 1) one or both of the light bulbs have failed, or; (2) power to the circuit has been lost and the control valves have failed closed.

Mr. S. A. Varga  
October 17, 1984  
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<sup>1</sup>Westinghouse Chemistry Manual SIP 5-1, Rev. 2, dated 3/77, Section 4

Enclosure 2

To

Letter to Mr. S. A. Varga of the NRC from Mr. D. C. Hintz of WPSC

Dated October 17, 1984

Summary of Revisions to the Master List

Summary of Revisions to the Master List

Enclosure 2 of Reference 1, contained the Master List of electrical equipment within the scope of the rule (10 CFR 50.49) at the KNPP as of March 16, 1984. Continued refinement of this list has resulted in the following revisions.

A) Drawing Review for Electrical Interactions between Safety-Related and Nonsafety-Related Equipment (10 CFR 50.49 (b)(2))

WPSC has performed a review of electrical schematics and/or wiring diagrams for the equipment items on our Master List to determine if any adverse electrical interactions could occur between safety-related and nonsafety-related equipment. Several deficiencies have been discovered and are discussed in Enclosure 1 of this letter. These deficiencies have resulted in the addition of the following equipment items, six (6) 120/24 VAC transformers, to our Master List.

Additions

<u>Manufacturer</u>	<u>Model No.</u>	<u>Plant ID</u>	<u>FRC Item No.</u>	<u>Comments</u>
Johnson (PENN/BASCO)	Y61AS-1	19708	None	DCR-1433
Johnson (PENN/BASCO)	Y61AS-1	19709	None	DCR-1433
Johnson (PENN/BASCO)	Y61AS-1	19710	None	DCR-1433
Johnson (PENN/BASCO)	Y61AS-1	19711	None	DCR-1433
Johnson (PENN/BASCO)	Y61AS-1	19712	None	DCR-1433
Johnson (PENN/BASCO)	Y61AS-1	19713	None	DCR-1433

B) Vent and Drain Reroute Modifications

The vent and drain reroute modifications (DCR's 869, 870, 871, and 893) limit the number of systems which might contain highly radioactive liquids and gases post-accident. They were installed by WPSC in order to further reduce post-accident radiation levels in the Auxiliary Building.

Radioactive liquids and gases from various sources are rerouted back to containment, which would be used as the ultimate collection point. Several filter bypasses were also installed to minimize local radiation levels by preventing source term buildup.

These modifications were not installed in response to any regulatory requirement, but rather as a prudent step taken independently by WPSC in response to the incident at the Three Mile Island Nuclear Plant. Related components were originally included in our equipment listing of "Installed TMI Action Plan Items" (Reference 6) even though they were not installed in response to a particular NUREG-0737 Category. In the past they have also been included in our Master list of electrical equipment (Reference 1, Enclosure 2). These equipment items should be deleted from our Master List since they are not important-to-safety as defined by the rule (10 CFR 50.49). However, WPSC is committed to maintaining the post-accident operability of these reroutes to ensure that they will fulfill their intended functions, and as such will maintain their environmental qualification.

Deletions

<u>Manufacturer</u>	<u>Model No.</u>	<u>Plant ID</u>	<u>FRC Item No.</u>	<u>Comments</u>
Limatorque	SMB-00	32390	12	Not in scope of rule.
Limatorque	SMB-00	32391	12	Not in scope of rule.
Namco	EA 170	3166701	41	Not in scope of rule.
Namco	EA 170	3166702	41	Not in scope of rule.
Namco	EA 170	3167901	41	Not in scope of rule.
Namco	EA 170	3167902	41	Not in scope of rule.
Namco	EA 170	3168201	41	Not in scope of rule.
Namco	EA 170	3168202	41	Not in scope of rule.
Namco	EA 170	3168301	41	Not in scope of rule.
Namco	EA 170	3168302	41	Not in scope of rule.
Namco	EA 170	3168401	41	Not in scope of rule.
Namco	EA 170	3168402	41	Not in scope of rule.
Namco	EA 170	3168501	41	Not in scope of rule.
Namco	EA 170	3168502	41	Not in scope of rule.
Namco	EA 180	3168801	42	Not in scope of rule.
Namco	EA 180	3168802	42	Not in scope of rule.
Namco	EA 180	3168901	42	Not in scope of rule.
Namco	EA 180	3168902	42	Not in scope of rule.
Valcor	V526-5871-1	33654	44	Not in scope of rule.
Valcor	V526-5871-1	33656	44	Not in scope of rule.
Valcor	V526-5871-1	33657	44	Not in scope of rule.
Valcor	V526-5871-1	33664	44	Not in scope of rule.
Valcor	V526-5871-1	33665	44	Not in scope of rule.
Valcor	V526-6410-1	33649	44	Not in scope of rule.

Deletions

<u>Manufacturer</u>	<u>Model No.</u>	<u>Plant ID</u>	<u>FRC Item No.</u>	<u>Comments</u>
Valcor	V526-6410-1	33650	44	Not in scope of rule.
Valcor	V526-6600-1	33684	44	Not in scope of rule.
Valcor	V526-6600-1	33685	44	Not in scope of rule.
Valcor	V526-5950-8	33655	45	Not in scope of rule.
ASCO	8320A185	33710	73	Not in scope of rule.
ASCO	JVA212-631-4RU	33716	74	Not in scope of rule.
ASCO	JVA212-631-4RU	33718	74	Not in scope of rule.
ASCO	NP831655E	33717	75	Not in scope of rule.
ASCO	NP831655E	33719	75	Not in scope of rule.
Valcor	V573-5231-3	33652	77	Not in scope of rule.
Valcor	V573-5231-3	33653	77	Not in scope of rule.
Magnetrol	B730	16721	80	Not in scope of rule.
Magnetrol	B730	16722	80	Not in scope of rule.
Magnetrol	B730	16723	80	Not in scope of rule.
Magnetrol	B730	16724	80	Not in scope of rule.
Magnetrol	B730	16725	80	Not in scope of rule.
West.	PB1XPC	1962301	159	Not in scope of rule.
West.	PB1XPC	1962401	159	Not in scope of rule.
West.	PB1	19623	160	Not in scope of rule.
West.	PB1	19624	160	Not in scope of rule.
Crane	GVHS-10K-12H-1S	1-869	None	Not in scope of rule.
Crane	GVHS-10K-12H-1S	1-870	None	Not in scope of rule.
Valcor	V526-5871-1	33651	None	Not in scope of rule.

C) Implemented Design Change Requests (DCR's)

Enclosure 2 of Reference 1, indicated that all of the electrical equipment items within the scope of the rule (10 CFR 50.49) were environmentally qualified with the exception of a few components scheduled for replacement or relocation during the 1984 refueling outage. Justification for continued plant operation until the end of the 1984 refueling outage was provided in References 1 and 5 for these items. All of this work was completed during the 1984 refueling outage. In addition, several DCR's were completed that upgraded the environmental qualification of numerous equipment items within the scope of the rule. These modifications have resulted in various miscellaneous revisions to our Master List (e.g., Manufacturer, Model No., Plant I.D., etc.) which are too numerous to list here.

Updates/Additions/Deletions

Numerous Miscellaneous Revisions.