ATTACHMENT 1

Proposed McGuire Unit 1 and 2 Technical Specifications Changes

Insert for Technical Specification 3/4.8.2

INSERT A

During periods of battery bank replacement only, the affected channel may be considered OPERABLE provided a temporary battery is configured to a full capacity charger and connected to the respective bus. All limiting conditions for operation, action statements, and surveillance requirements pertaining to the permanent batteries shall be maintained for the temporary battery during periods of battery bank replacement.

ELECTRICAL POWER SYSTEMS

3/4.8.2 D.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 The following D.C. channels shall be OPERABLE and energized:

a. Channel 1 consisting of 125-Volt D.C. Bus No. EVDA, 125-Volt D.C. Battery Bank No. EVCA and a full capacity charger,*#

b. Channel 2 consisting of 125-Volt D.C. Bus No. EVDB, 125-Volt D.C. Battery Bank No. EVCB and a full capacity charger,*#

c. Channel 3 consisting of 125-Volt D.C. Bus No. EVDC, 125-Volt D.C. Battery Bank No. EVCC and a full capacity charger,*#and

d. Channel 4 consisting of 125-Volt D.C. Bus No. EVDD, 125-Volt D.C. Battery Bank No. EVCD and a full capacity charger.*#

APPLICABILITY: MODES 1, 2, 3, and 4

ACTION: (Units 1 and 2)

a. With one 125-volt D.C. bus inoperable or not energized, restore the inoperable bus to OPERABLE and energized status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one 125-volt D.C. battery and/or its normal and standby chargers inoperable or not energized, either:

1. Restore the inoperable battery and/or charger to OPERABLE and energized status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours, or

2. Energize the associated bus with an OPERABLE battery bank via OPERABLE tie breakers within 2 hours; operation may then continue for up to 72 hours from time of initial loss of OPERABILITY, otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.1.1 Each D.C. channel shall be determined OPERABLE and energized with tie breakers open between redundant busses at least once per 7 days by verifying correct breaker alignment, indicated power availability from the charger and battery, and voltage on the bus of greater than or equal to 125 volts.

*A vital bus may be disconnected from its D.C. source for up to 24 hours for the purpose of performing an equalizing charge on its associated battery bank provided the vital busses associated with the other battery banks are OPERABLE and energized.

INSERT A

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SURVEILLANCE REQUIREMENTS (Continued)

4.8.2.1.2 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1) Verifying that the parameters in Table 4.8-3 meet the Category A limits, and

2) Verifying total battery terminal voltage is greater than or equal to 125 volts on float charge.

b. At least once per 92 days and within 7 days after a battery discharge (battery terminal voltage below 110 volts), or battery overcharge (battery terminal voltage above 150 volts), by:

1) Verifying that the parameters in Table 4.8-3 meet the Category B limits,

2) Verifying there is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohms, and

3) Verifying that the average electrolyte temperature of six connected cells is above 60°F.

c. At least once per 18 months by verifying that:

1) The cells, cell plates (if visible), and battery racks show no visual indication of physical damage or abnormal deterioration;

2) The cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material;

3) The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohms; and

4) The battery charger will supply at least 400 amperes at a minimum of 125 volts for at least 1 hour.

d. At least once per 18 months by verifying that the battery capacity is adequate to either:

1) Supply and maintain in OPERABLE status all of the actual emergency loads for 1 hour when the battery is subjected to a battery service test, or

2) Supply a dummy load of greater than or equal to 440 amperes for 60 minutes while maintaining the battery terminal voltage greater than or equal to 105 volts.

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SURVEILLANCE REQUIREMENTS (Continued)

e. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Once per 60 month interval, this performance discharge test may be performed in lieu of the battery service test required by Specification 4.8.2.1.2d.

f. Annual performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 80% of the manufacturer's rating.

TABLE 4.8-3

BATTERY SURVEILLANCE REQUIREMENTS (Gould cells)

PARAMETER	CATEGORY A(1)	CATEGORY B(2)	
	LIMITS FOR EACH DESIGNATED PILOT CELL	LIMITS FOR EACH CONNECTED CELL	ALLOWABLE(3) VALUE FOR EACH CONNECTED CELL
Electrolyte Level	>Minimum level indication mark, and ≤ ¼" above maximum level indication mark	>Minimum level indication mark, and ≤ ¼" above maximum level indication mark	Above top of plates, and not overflowing
Float Voltage	≥ 2.13 volts	≥ 2.13 volts(c)	> 2.07 volts
Specific Gravity(a)	≥ 1.200(b)	≥ 1.195	Not more than .020 below the average of all connected cells or ≥ 1.195
		Average of all connected cells > 1.205	Average of all connected cells ≥ 1.195(b)

(a) Corrected for electrolyte temperature and level.
(b) Or battery charging current is less than 2 amps when on charge.
(c) Corrected for average electrolyte temperature.
(1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category B parameter(s) are restored to within limits within the next 6 days.
(2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.
(3) Any Category B parameter not within its allowable value indicates an inoperable battery.

TABLE 4.8-3 (continued)
BATTERY SURVEILLANCE REQUIREMENTS (AT&T CELLS)

	Category A(1)		Category B(2)	Category C(3)
Parameter	Limits for each designated pilot cell		Limits for each connected cell	Allowable value for each connected cell
Electrolyte Level	≥ Minimum level indication mark, and ≤ 1/4" above maximum level indication mark		≥ Minimum level indication mark, and ≤ 1/4" above maximum level indication mark	Above top of plates, and not overflowing
Float Voltage	≥ 2.20 Volts		≥ 2.17 Volts(4)	> 2.14 Volts
Specific(5) Gravity	≥ 1.285(6)	CELL	≥ 1.280	Not more than 0.020 below the average of all connected cells or ≥ 1.280
		BATTERY	Average of all connected cells > 1.285(7)	Average of all connected cells ≥ 1.280(6)(7)

(1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours, all the Category C measurements are taken and found to be within their allowable values. All Category B parameter(s) must be within limits in the next 6 days.
(2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category C parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.
(3) Any Category C parameter not within its allowable value indicates an INOPERABLE battery.
(4) Corrected for average electrolyte temperature.
(5) Corrected for electrolyte temperature and level.
(6) Or battery charging current is less than 2 amps when on float charge.
(7) With no more than 5 cells at the minimum limit.

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BASES

3/4.8.1, 3/4.8.2 AND 3/4.8.3 A.C. SOURCES, D.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS

The OPERABILITY of the A.C. and D.C power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety-related equipment required for: (1) the safe shutdown of the facility, and (2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. power sources and distribution systems satisfy the requirements of General Design Criterion 17 of Appendix A to 10 CFR 50.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources are consistent with the initial condition assumptions of the safety analyses and are based upon maintaining at least one redundant set of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss-of-offsite power and single failure of the other onsite A.C. source. The A.C. and D.C. source allowable out-of-service times are based on Regulatory Guide 1.93, "Availability of Electrical Power Sources", December 1974. When one diesel generator is inoperable, there is an additional ACTION requirement to verify that all required systems, subsystems, trains, components and devices, that depend on the remaining OPERABLE diesel generator as a source of emergency power, are also OPERABLE, and that the steam-driven auxiliary feedwater pump is OPERABLE. This requirement is intended to provide assurance that a loss-of-offsite power event will not result in a complete loss of safety function of critical systems during the period one of the diesel generators is inoperable. The term verify as used in this context means to administratively check by examining logs or other information to determine if certain components are out-of-service for maintenance or other reasons. It does not mean to perform the Surveillance Requirements needed to demonstrate the OPERABILITY of the component. The ACTION requirements for diesel generator testing in the event of the inoperability of other electric power sources also reflect the potential for degradation of the diesel generator due to excessive testing. This concern has developed, concurrently with increased industry experience with diesel generators, and has been acknowledged by the NRC staff in Generic Letter 84-15.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that: (1) the facility can be maintained in the shutdown or refueling condition for extended time periods, and (2) sufficient instrumentation and control capability is available for monitoring and maintaining the unit status.

The Surveillance Requirements for demonstrating the OPERABILITY of the diesel generators are in accordance with the recommendations of Regulatory Guides 1.9, "Selection of Diesel Generator Set Capacity for Standby Power Supplies," March 10, 1971, 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977, and 1.137, "Fuel-Oil Systems for Standby Diesel Generators," Revision 1, October 1979; also, Generic Letter 84-15, which modified the testing frequencies specified in Regulatory Guide 1.108.

A.C. SOURCES, D.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS (Continued)

The Surveillance Requirement for demonstrating the OPERABILITY of the station batteries are based on the recommendations of Regulatory Guide 1.129, "Maintenance Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," February 1978, and IEEE Std 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations."

Verifying average electrolyte temperature above the minimum for which the battery was sized, total battery terminal voltage onfloat charge, connection resistance values and the performance of battery service and discharge tests ensures the effectiveness of the charging system, the ability to handle high discharge rates and compares the battery capacity at that time with the rated capacity.

Table 4.8-3 specifies the normal limits for each designated pilot cell and each connected cell for electrolyte level, float voltage and specific gravity. The limits for the designated pilot cells float voltage and specific gravity, greater than 2.13 volts and 0.015 below the manufacturer's full charge specific gravity or a battery charger current that had stabilized at a low value, is characteristic of a charged cell with adequate capacity. The normal limits for each connected cell for float voltage and specific gravity, greater than 2.13 volts and not more than 0.020 below the manufacturer's full charge specific gravity with an average specific gravity of all the connected cells not more than 0.010 below the manufacturer's full charge specific gravity, ensures the OPERABILITY and capability of the battery.

Operation with a battery cell's parameter outside the normal limit but within the allowable value specified in Table 4.8-3 is permitted for up to 7 days. During this 7-day period: (1) the allowable values for electrolyte level ensures no physical damage to the plates with an adequate electron transfer capability; (2) the allowable value for the average specific gravity of all the cells, not more than 0.020 below the manufacturer's recommended full charge specific gravity, ensures that the decrease in rating will be less than the safety margin provided in sizing; (3) the allowable value for an individual cell's specific gravity, ensures that an individual cell's specific gravity will not be more than 0.040 below the manufacturer's full charge specific gravity and that the overall capability of the battery will be maintained within an acceptable limit; and (4) the allowable value for an individual cell's float voltage, greater than 2.07 volts, ensures the battery's capability to perform its design function.

ATTACHMENT 2

Justification and Safety Analysis

Background/Justification:

The 125 VDC Vital Instrumentation and Control Power System provides a source of reliable continuous DC power for safety related control and instrumentation. This system, which is shared between the two McGuire units, is divided into four independent and physically separated load groups, each load group being comprised of one battery, one battery charger, one DC distribution center, and two DC power panelboards.

Each of the batteries, designated EVCA, EVCB, EVCC, and EVCD, consists of cells in clear plastic containers with covers, racks, and accessories. During normal operation, the batteries are floated on the buses and assume load without interruption upon loss of a battery charger or AC power source.

Each battery is sized to carry the continuous emergency load of its own vital buses and also assume the loads of another battery in a backup capacity, if required, for a period of one hour. In addition, the battery is capable of supplying power for the operation of anticipated momentary loads during the one hour period.

The batteries and their related accessories are located in separate rooms in the Auxiliary Building which is designed as a Seismic Category I structure, and are thereby protected from station design basis events.

Figure 1 depicts a general illustration of the 125 VDC Vital Instrumentation and Control Power System, including the batteries.

McGuire is currently experiencing vital battery cell failures which are apparently related to normal aging and a condition of degradation called "oxide slough-off". This condition was diagnosed by the battery manufacturer (Gould) and is evidenced by a visible gray growth on the cell plates. This growth, along with normal sediment buildup, is causing a voltage reduction at the cell terminals of the affected cells.

Another form of degradation is also developing on the vital batteries, evidenced by "flaking" of the plate hook area. This problem was identified during an inspection resulting from NRC IE Information Notice 86-37, "Degradation of Station Batteries". The flaking on the battery cells at McGuire is mild and represents one of the most common failure mechanisms in lead-calcium batteries.

Because of visible degradation of each of the vital batteries, McGuire is now complying with the surveillance requirements of Technical Specification 4.8.2.1.2f. This changes the battery capacity performance discharge test, normally conducted at least once per 60 months, to an annual interval. Results of the most recent performance testing (conducted during the first quarter of 1991) show all four vital batteries to be at or above 100% of manufacturer rating. Existing capacity and operability of the vital batteries are not in question at present.

It appears that any performance decrease as a result of detectable degradation of the cells is somewhat masked by the natural aging plate grid growth, resulting in a net capacity gain. As the cells age and approach the end of their design life, however, the capacity increases

that are now seen will diminish at a much accelerated rate. At some point, these aging mechanisms will manifest into unacceptable performance and possibly nonrecoverable cell failure. It is only prudent to anticipate this occurrence and replace the aging battery banks accordingly.

McGuire has been forced to jumper out and replace individual cells that have either failed to perform during testing or fail to meet acceptance parameters of Technical Specifications. At present, McGuire has only seven spare cells available. With the existing verdor qualification and new replacement cell availability in question, this reinforces the urgency for battery replacement.

Bases/Safety Analysis:

Replacement Battery Characteristics

The battery selected for replacement is the AT&T LINEAGE 2000 Round Cell Battery. This battery (see Figure 2) is a secondary, lead-acid, flooded cell designed by AT&T Bell Laboratories. The specific size (model) selected for McGuire is Model KS-20472, List 1SH (1850 Ampere Hours). Table 1 below lists characteristics of the replacement batteries.

Table 1
Replacement Battery Characteristics

Weight of Cell	352 lbs
Weight of Acid (Vol)	91 lbs (70 pts)
Size	26-3/4" HX x 13-3/4" DIA
Ampere Hour Capacity (8-hr rate @ 77F)	
Nameplate Rating	1850
Estimated Lifetime Capacity	1750
Heat Dissipation during Normal Operation	7.2 micro BTU/hr/cell
Maximum Heat Dissipation	1747 BTU/hr/cell
Recommended Ambient Operating Temperature	77F
Hydrogen Generation during Float Conditions	.094 ft^3/hr for 100 ma/cell
Hydrogen Generation during Equalization	
2.5 volts/cell Equalization	4.72 ft^3/hr
2.25 volts/cell Equalization	2.36 ft^3/hr
Minimum Battery Terminal Voltage	1.5
Nominal Float Voltage	2.25 to 2.27
Specific Gravity	1.3 nominal

The batteries will be installed on AT&T LINEAGE 2000 Battery Stands. These stands are of a polyester-glass construction and were metal-reinforced by the manufacturer to ensure seismic qualification.

During the time period that the battery banks are being replaced, a temporary battery bank will be installed and connected to the affected 125 volt bus so that the bus remains battery backed at all times. The temporary battery bank will be located in Room 700 of the McGuire Service Building (Shared Load Center Room) and will be tied to the DC side of the standby battery charger EVCS via EVDS distribution center breaker 1B using temporary cable. Figure 3 depicts the location of the temporary battery and cabling. Depending upon which battery bank is being replaced, the temporary battery will either be one of the AT&T

banks that has not yet been installed as a replacement or a bank consisting of Gould cells that have been replaced. Current plans are to utilize an AT&T bank as the replacement battery during changeout of the first bank, then utilize the removed Gould bank as the replacement battery during changeout of the remaining three banks. The standby charger/temporary battery combination will be connected to the affected 125 volt bus before its battery is disconnected for removal.

Duke Power Company will develop the temporary operating procedure for connecting the temporary battery to the affected vital bus and conduct all necessary training related to the procedure prior to the replacement of the first battery bank.

In addition, the ambient temperature of the room containing the temporary battery will be periodically monitored by Operations personnel to ensure that it remains within battery specifications. The ventilation in the area is sufficient to prevent accumulation of excess hydrogen.

If the temporary battery configuration should become degraded and incapable of fulfilling its intended function while a battery bank is being replaced, then the affected 125 volt channel will be declared inoperable and the normal limiting conditions for operation as stated in the Technical Specifications will apply. Should a battery become degraded, ACTION b.2. of Limiting Condition for Operation 3.8.2.1 allows the associated bus to be cross-tied to an operable battery bank within two hours. Operation in this configuration can then continue for up to 72 hours from the time of initial loss of operability. Experience at McGuire has shown that this cross-tie can be performed within approximately fifteen minutes.

In addition, all 7-day surveillance requirements associated with the 125 volt channels will be performed for the temporary battery configuration to verify its operability while the temporary battery is being utilized during the periods of battery bank replacement.

The first battery scheduled to be replaced is EVCA. The time that a battery bank is removed from service for replacement will be kept to an absolute minimum. Replacement activities are scheduled for 7-day, 24-hour work coverage. Following is the currently proposed schedule for replacement of battery bank EVCA:

Activity	Schedule
1. Remove battery (isolate power, disconnect cables, disconnect battery interlock, remove battery, disassemble and remove rack)	July 1-3, 1991
2. Remove anchors and repair floor (includes 7 days cure time for concrete)	July 4-12, 1991
3. Install new battery (assemble new rack, install new battery, attach battery interlock and associated hardware)	July 13-17, 1991

4. Connect cables and check system for continuity and ground — July 18-19, 1991

5. Performance testing — July 20-21, 1991

The total duration of the replacement operation is therefore 21 days.

Following the replacement of EVCA, battery EVCC will be replaced. The schedule of replacement activities for EVCC is identical, beginning on August 1, 1991. Battery banks EVCB and EVCD will not be replaced until after the conclusion of the next Unit 2 refueling outage. This replacement is presently expected to begin in late March 1992.

Description of Proposed Technical Specifications Changes:

Technical Specification 3/4.8.2 (Limiting Condition for Operation 3.8.2.1) is modified by placing an additional footnote after the existing footnote for items a through d. This additional footnote specifies that during periods of battery bank replacement only, the affected channel may be considered OPERABLE while the permanent battery is disconnected provided the temporary battery/charger configuration described previously is connected to the respective vital bus. Although current plans are to utilize the standby battery charger EVCS in conjunction with the temporary battery, the footnote is phrased to only specify that a full capacity charger is required. In the unforeseen event that the standby charger becomes unavailable, this would allow the normal charger for that channel to be utilized.

Table 4.8-3 is modified by splitting it into two sections; one for the existing (Gould) cells and another for the replacement (AT&T) cells. This split-table configuration will be maintained until all four battery banks have been replaced.

Since the proposed Technical Specifications changes are temporary changes which will expire when all four vital battery banks have been replaced with new cells, the Bases of the affected Technical Specifications are not being changed to reflect the temporary provisions. The bases for these temporary provisions will be documented via this submittal and the NRC Safety Evaluation Report approving these proposed amendments.

These temporary provisions will expire when all four battery banks have been replaced. At that time, a subsequent Technical Specification change will be submitted to the NRC to delete the footnote concerning the temporary battery and the portion of Table 4.8-3 that pertains to the Gould battery surveillance requirements.

Conclusions:

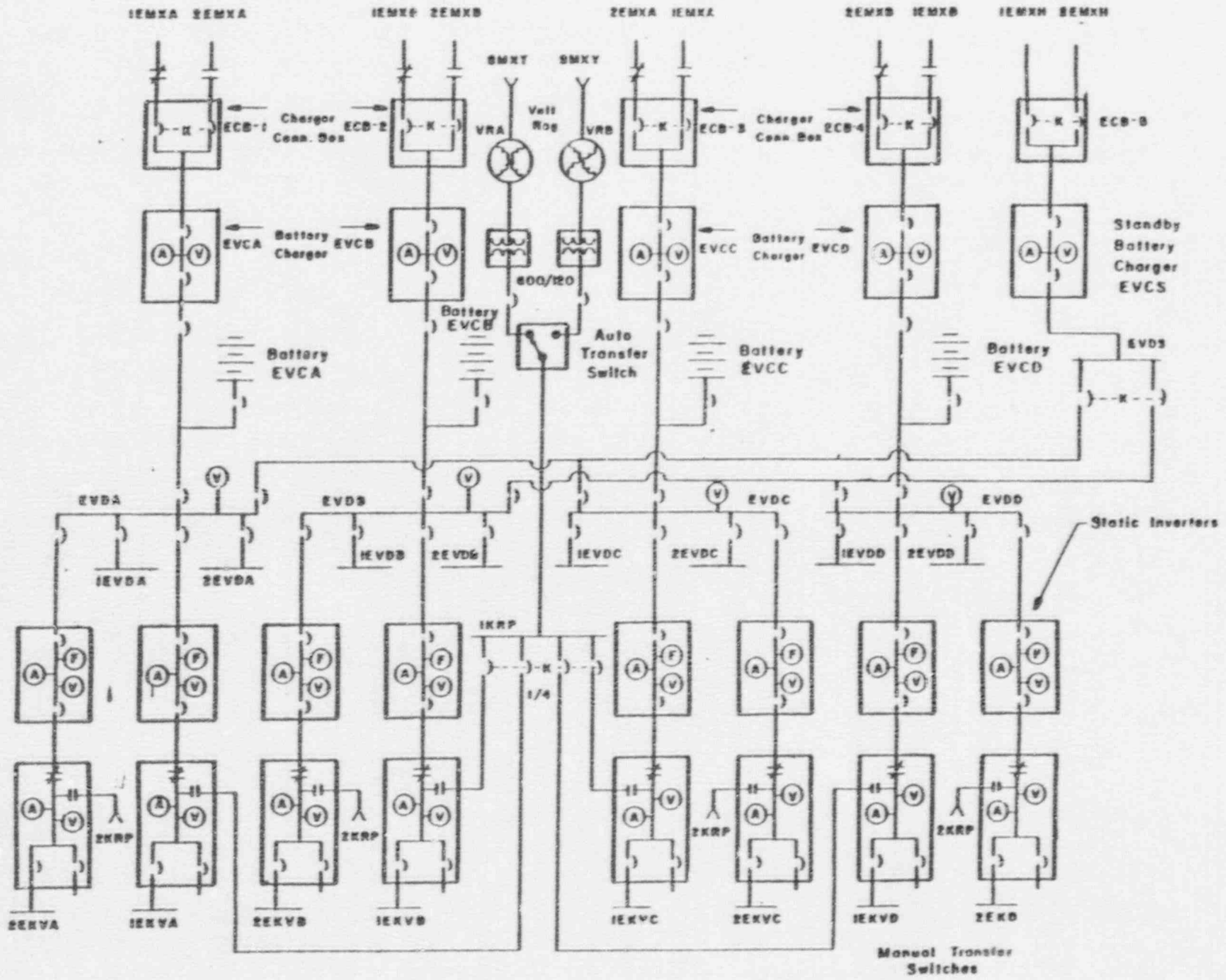
Replacement of the 125 volt DC battery banks at McGuire with cells of an improved and more reliable design will result in a net improvement in plant safety.

During the periods of battery bank replacement, the affected 125 volt bus will remain battery backed through utilization of the aforementioned standby battery charger/temporary battery bank combination. Hence, all

safety-related equipment supplied by the affected distribution center will be battery backed.

Based upon the preceding safety analysis, Duke Power Company concludes that the proposed amendments will not be inimical to the health and safety of company personnel or the public.

Figure 1 - Illustration of McGuire 125 VDC Vital Instrumentation and Control Power System



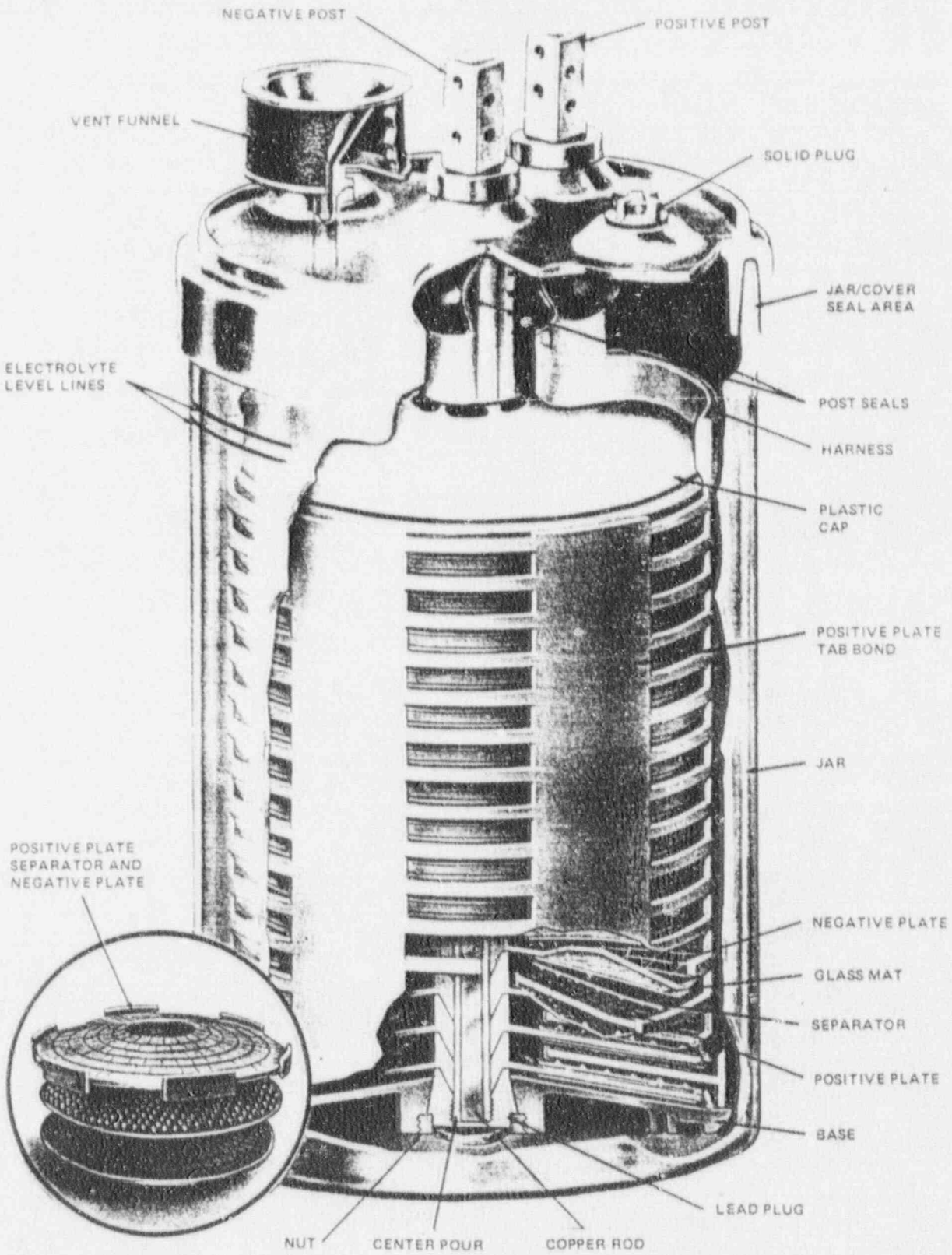
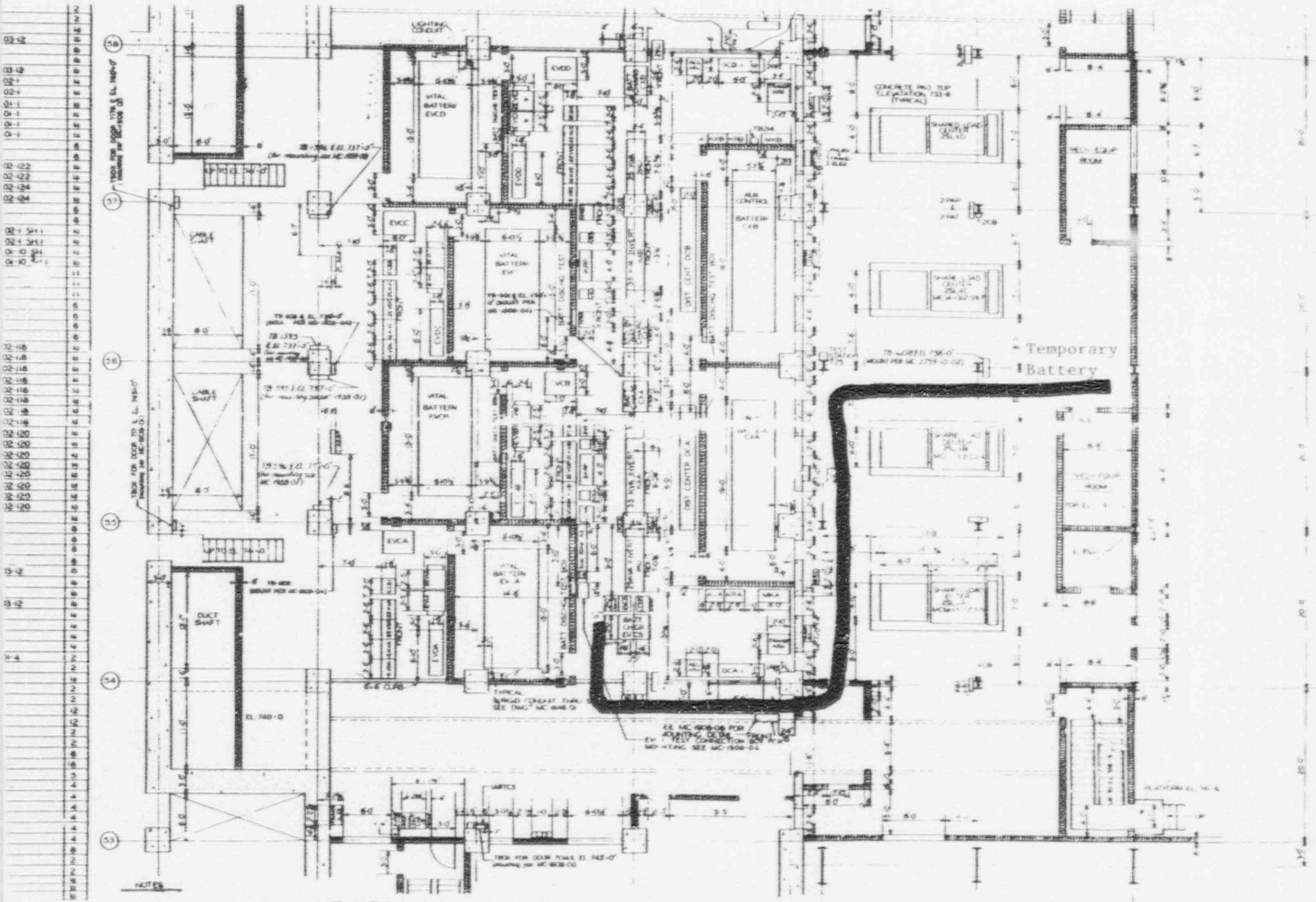


Figure 2 - AT&T LINEAGE 2000 Round Cell Battery (Cutaway View)

Figure 3 - Location of Temporary Battery and Cabling Installation



ATTACHMENT 3

Analysis of Significant Hazards Consideration

Analysis of Significant Hazards Consideration:

Duke Power Company has made the determination that this amendment request involves a no significant hazards consideration by applying the standards established by the Commission's regulation in 10CFR 50.92. This ensures that operation of the facility in accordance with the proposed amendment would not:

(1) involve a significant increase in the probability or consequences of an accident previously evaluated; or

(2) create the possibility of a new or different kind of accident from any accident previously evaluated; or

(3) involve a significant reduction in a margin of safety.

The Commission has provided guidelines pertaining to the application of the three standards by listing specific examples in 48FR14870. Example (vi) relates to a change which either may result in some increase to the probability or consequences of a previously-analyzed accident or may reduce in some way a safety margin, but where the results of the change are clearly within all acceptable criteria with respect to the system or component specified in the Standard Review Plan.

In this case the change proposed by this request is similar to Example (vi) in that Duke Power Company is proposing to replace the existing 125 volt DC battery cells with cells of an improved and more reliable design while utilizing a temporary battery bank during the periods of cell replacement.

The following evaluation measures aspects of this proposal against the Part 50.92(c) requirements to demonstrate that all three standards are satisfied.

First Standard

The amendment would not involve a significant increase in the probability or consequences of an accident previously evaluated.

The 125 Volt DC Vital Instrumentation and Control Power System is not an accident initiator; however, it serves as an accident mitigation system. The replacement batteries are being purchased to meet QA Condition 1 requirements with 10CFR 21 dedication provided by the manufacturer. The new batteries and racks will be seismically mounted. There is no change in cabling required for the new batteries. A fire protection review was performed with no concerns identified. There is no change in the physical and electrical separation provisions for the batteries. The performance of plant safety functions will not be degraded by the new batteries.

Implementation of each battery bank replacement will require three weeks. During the replacement period, a safety-grade battery bank will be connected in place as a temporary replacement. The temporary battery will be installed in the Service Building, because no space is available to locate it in the Battery Room in the Auxiliary Building. The Service Building is not a Seismic Category I structure; nevertheless, Duke Power

Company feels that the temporary battery would likely continue to function following a seismic event. The 125 Volt DC Vital Instrumentation and Control Power System will be restored to the fully qualified configuration following each three-week battery replacement period.

During each battery replacement period, the other three batteries and associated distribution equipment will remain in their normal configuration. The performance of their safety functions will not be degraded.

The ability to cross-tie the electrical buses for the batteries by manual action remains available as backup in the event that the temporary battery is rendered unavailable during the replacement periods. Each battery is sized to carry the continuous emergency loads and anticipated momentary loads of its own vital buses, and assume the loads of another battery in a backup capacity for one hour. Technical Specification Limiting Condition for Operation 3.8.2.1 discusses the limitations for this configuration during normal operation.

The ambient temperature surrounding the temporary battery will be periodically monitored to ensure it remains within battery specifications. Available ventilation is sufficient to prevent accumulation of excess hydrogen.

For the above reasons, neither the new replacement batteries nor the temporary battery installation involves a significant increase in the probability or consequences of an accident previously evaluated.

Second Standard

The amendment would not create the possibility of a new or different kind of accident from any kind of accident previously evaluated.

There are no new or common failure modes created by the new batteries. The new batteries perform the same function as the existing batteries. The existing batteries are approaching the end of their useful life; therefore, the new batteries are expected to be more reliable than the existing ones.

The temporary backup battery will be a new battery for the first replacement operation, and for each subsequent replacement, it will be a replaced battery. In either case, the temporary battery and rack will be the same qualified equipment as normally used. There are no new failure modes created for the batteries and associated distribution equipment not involved in the particular changeout operation. With the temporary battery connected, there are no new failure modes for the distribution equipment associated with the battery being replaced. The new failure mode for the temporary battery installation as a result of it not being fully seismically qualified is considered insignificant, due to the short duration for which the temporary configuration will be used. Duke Power Company has evaluated the temporary battery configuration from a probabilistic risk standpoint and has found that the temporary battery has no significant impact on the overall core melt frequency at McGuire.

For these reasons, the possibility of a new or different kind of accident from any kind of accident previously evaluated is not created.

Third Standard

The amendment would not involve a significant reduction in a margin of safety.

The vital batteries are required to power the emergency diesel generator load sequencers during certain accident conditions. Ultimately, safety-related equipment required to maintain the integrity of fission product barriers can depend upon proper performance of the sequencers, and therefore, the batteries. For the replacement batteries, no fission product barriers are affected by the battery changeout. Also, the temporary battery installation does not affect any fission product barriers. All required procedures and training governing operation with the temporary battery in place will be developed and implemented prior to conducting battery replacement. During the periods of battery replacement, if the temporary battery should become unavailable, then the affected 125 volt channel will be declared inoperable and the normal limiting conditions for operation will apply.

For these reasons, the amendment does not involve a significant reduction in any safety margin.

Based on the above and the supporting technical justification, Duke Power Company has concluded that there is no significant hazard consideration involved in this amendment request.