

ATTACHMENT 1

PROPOSED CATAWBA UNIT 1 AND 2 TECHNICAL SPECIFICATION CHANGES

## PLANT SYSTEMS

### 3/4.7.13 STANDBY SHUTDOWN SYSTEM

#### LIMITING CONDITION FOR OPERATION

3.7.13 The Standby Shutdown System (SSS) shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION: (Units 1 and 2)

- a. With the Standby Shutdown System inoperable, restore the inoperable equipment to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- b. With the total leakage from UNIDENTIFIED LEAKAGE, IDENTIFIED LEAKAGE and reactor coolant pump seal leakage greater than 26 gpm, declare the Standby Makeup Pump inoperable and take ACTION a. above.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.7.13.1 The Standby Shutdown System diesel generator shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying:
  - 1) The fuel level in the fuel storage tank is greater than or equal to 67 inches, and
  - 2) The diesel starts from ambient conditions and operates for at least 30 minutes at greater than or equal to 700 kW.
- b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-1975, is within the acceptable limits specified in Table 1 of ASTM-D975-1977 when checked for viscosity and water and sediment; and
- c. At least once per 18 months, during shutdown, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.

4.7.13.2 The Standby Shutdown System diesel starting 24-volt battery bank and charger shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that:
  - 1) The electrolyte level of each battery is ~~above the plates~~; and
  - 2) The overall battery voltage is greater than or equal to 24 volts.

at or above the low mark  
and at or below the high mark

on float charge

individual cell voltage is greater than or equal to 1.36 volts on float charge

## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

- b. At least once per 92 days by verifying that the ~~specific gravity~~ ~~appropriate for continued service of the battery, and~~

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

- 1) The batteries, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration, and
- 2) The battery-to-battery and terminal connections are clean, tight, and free of corrosion.

4.7.13.2 The Standby Makeup Pump water supply shall be demonstrated OPERABLE by:

- a. Verifying at least once per 7 days:

- 1) That the requirements of Specification 3.9.10 are met and the boron concentration in the storage pool is greater than or equal to 2000 ppm, or
- 2) That a contained horated water volume of at least 112,320 gallons with minimum boron concentration of 2,000 ppm is available and capable of being aligned to the Standby Makeup Pump.

- b. Verifying at least once per 92 days that the Standby Makeup Pump develops a flow of greater than or equal to 26 gpm at a pressure greater than or equal to 2488 psig.

4.7.13.4 The Standby Shutdown System 250/125-Volt Battery Bank and its associated charger shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying:

- 1) That the electrolyte level of each battery is above the plates, and
- 2) The total battery terminal voltage is greater than or equal to 258/129 volts on float charge.

- b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the battery, and

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

- 1) The batteries, cell plates, and battery racks show no visual indications of physical damage or abnormal deterioration, and
- 2) The battery-to-battery and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

ATTACHMENT 2

JUSTIFICATION AND SAFETY ANALYSIS

### Background and Description of Changes

ANSI/IEEE Standard 1106-1987 (IEEE Recommended Practice for Maintenance, Testing, and Replacement of Nickel-Cadmium Storage Batteries for Generating Stations and Substations) provides maintenance, test schedules, and testing procedures that can be used to optimize the life and performance of nickel-cadmium batteries designed for continuous-float applications. A nickel-cadmium 24-volt battery bank is utilized for starting the Standby Shutdown Facility (SSF) diesel generator at Catawba.

This proposed technical specification amendment would change Surveillance Requirements 4.7.13.2a. and 4.7.13.2b. such that they will agree with the recommendations contained in the above standard. In particular, SR 4.7.13.2a.1 is modified to require verification that the battery electrolyte level is at or between the low and high marks instead of above the battery plates. SR 4.7.13.2a.2 is modified to clarify that the overall battery voltage should be verified to be greater than or equal to 24 volts while the battery is on float charge. Finally, SR 4.7.13.2b. is modified to delete the specific gravity check for the battery and replace it with a requirement to verify acceptable individual battery cell voltage while the battery is on float charge.

### Justification and Safety Analysis

By modifying SR 4.7.13.2a.1 to specify verifying electrolyte level at or between the low and high marks instead of above the plates, additional conservatism is introduced into the surveillance requirement (i.e., the allowed range is more restrictive than a minimum level). By changing SR 4.7.13.2a.2 to require verifying overall battery voltage with the battery on float charge, this surveillance requirement is made consistent with ANSI/IEEE Standard 1106-1987. Regarding SR 4.7.13.2b., specific gravity is not a meaningful parameter to measure in nickel-cadmium cells. Nickel-cadmium battery electrolyte is an aqueous solution of potassium hydroxide (KOH). Lithium hydroxide is sometimes added. The alkaline electrolyte does not enter into the electrochemical charge/discharge reactions; it merely acts as an ionic conductor of uniform low resistance. Consequently, the specific gravity does not change with the state of charge of the cell. Therefore, individual cell voltage is a more appropriate parameter for nickel-cadmium batteries and is in agreement with the recommendations of the standard and is an acceptable method for checking the state of charge of the battery. Hence, this surveillance requirement will be revised to delete the specific gravity check and replace it with a requirement to verify individual battery cell voltage while the battery is on float charge.

Regarding these proposed changes, Duke Power Company has concluded that they will not be inimical to the health and safety of company personnel or to the public.

ATTACHMENT 3

NO SIGNIFICANT HAZARDS CONSIDERATION ANALYSIS



Duke Power Company has made the determination that the proposed technical specification amendment does not involve a significant hazards consideration. A no significant hazards consideration is indicated if 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.

In order to assist the Commission has provided guidance pertaining to the application of the three standards by listing examples of amendments that are considered not to involve significant hazards considerations. Example (ii) describes a change that could involve an additional limitation, restriction, or control not presently included in the technical specifications: for example, a more stringent surveillance requirement.

In this case, the proposed change is similar to example (ii) in that more stringent or more pertinent surveillance requirements would be substituted for existing surveillance requirements. The following analysis demonstrates that a no significant hazards consideration is involved for this amendment request:

#### First Standard

The proposed amendment does not involve any increase in the probability or consequences of an accident previously evaluated. The changes will make the technical specifications more conservative with respect to the requirements placed on the SF nickel-cadmium batteries. Therefore, there will be no effect on the probability or consequences of any accident.

#### Second Standard

The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. The design and allowed modes of operation of the station will not be changed as a result of this proposed amendment.

#### Third Standard

The proposed amendment does not involve any reduction in a margin of safety. Prescribing more accurate and conservative surveillance requirements will actually increase the margin of safety currently contained within the design and operating restrictions of the facility.

Based upon the above analysis, Duke Power Company concludes that no significant hazards considerations are associated with this amendment request.

### Environmental Impact

The proposed technical specification changes have been reviewed against the criteria of 10 CFR 51.22 for environmental considerations. As shown above, the proposed changes do not involve significant hazards considerations, nor do they increase the types and amounts of effluents that may be released offsite, nor do they increase individual or cumulative occupational radiation exposures. Based upon this, the proposed technical specification changes meet the criteria given in 10 CFR 51.22(c)(9) for a categorical exclusion from the requirement for an Environmental Impact Statement.