

ATTACHMENT 2 TO AEP:NRC:1142

PROPOSED CHANGES TO THE  
DONALD C. COOK NUCLEAR PLANT UNIT NOS. 1 AND 2  
TECHNICAL SPECIFICATIONS

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## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying the generator capability to reject a load greater than or equal to 600 kw while maintaining steady state voltage at  $4160 \pm 420$  volts and steady state frequency at  $60 \pm 1.2$  Hz,
3. Verifying the generator capability to reject a load of 3500 kw without exceeding 75% of the difference between nominal speed and the overspeed trip setpoint,
4. Simulating a loss of offsite power by itself, and:
  - a) Verifying de-energization of the emergency busses and load shedding from the emergency busses,
  - b) Verifying that the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After load sequencing is completed, the steady state voltage and frequency of the emergency busses shall be maintained at  $4160 \pm 420$  volts and  $60 \pm 1.2$  Hz during the test.
5. Verifying that, on a Safety Injection actuation test signal (without loss of offsite power), the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes.
6. Simulating a loss of offsite power in conjunction with a Safety Injection actuation test signal, and by:
  - a) Verifying de-energization of the emergency busses and load shedding from the emergency busses,
  - b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected emergency (accident) loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After load sequencing is completed, the steady state voltage and frequency of the emergency busses shall be  $4160 \pm 420$  volts and  $60 \pm 1.2$  Hz. The voltage and frequency shall be maintained within these limits for the remainder of this test, and

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

2. The pilot cell specific gravity, corrected to 77°F, and full electrolyte level (fluid at the bottom of the maximum level indication mark), is greater than or equal to 1.200,
  3. The pilot cell voltage is greater than or equal to 2.13 volts, and
  4. The overall battery voltage is greater than or equal to 250 volts.
- b. At least once per 92 days by verifying that:
1. The voltage of each connected cell is greater than or equal to 2.13 volts under float charge.
  2. The specific gravity, corrected to 77°F, and full electrolyte level (fluid at the bottom of the maximum level indication mark), of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.03 from the value observed during the previous test, and
  3. The electrolyte level of each connected cell is between the top of the minimum level indication mark and the bottom of the maximum level indication mark.
- c. At least once per 18 months by verifying that:
1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,
  2. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material,
  3. The battery charger will supply at least 140 amperes at greater than or equal to 250 volts for at least 4 hours.
- d. At least once per 18 months, perform a battery service test during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the times specified in Table 4.8-2 with the battery charger disconnected. The battery terminal voltage shall be maintained greater than or equal to 210 volts throughout this test.

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### SURVEILLANCE REQUIREMENTS (Continued)

3. The pilot cell voltage is greater than or equal to 2.13 volts, and
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- b. At least once per 92 days by verifying that:
1. The voltage of each connected cell is greater than or equal to 2.13 volts under float charge.
  2. The specific gravity, corrected to 77°F and full electrolyte level (fluid at the bottom of the maximum level indication mark), of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.03 from the value observed during the previous test, and
  3. The electrolyte level of each connected cell is between the top of the minimum level indication mark and the bottom of the maximum level indication mark.
- c. At least once per 18 months by verifying that:
1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.
  2. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.
  3. The battery charger will supply at least 10 amperes at greater than or equal to 250 volts for at least 4 hours.
- d. At least once per 18 months perform a battery service test, during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the times specified of Table 4.8-3 with the battery charger disconnected. The battery terminal voltage shall be maintained greater than or equal to 210 volts throughout the battery service test.
- e. At least once per 60 months perform a battery discharge test during shutdown (MODES 5 or 6), by verifying that the battery capacity is at least 80% of the manufacturer's rating. This performance discharge test shall be performed in place of the battery service test.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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3. Verifying the generator capability to reject a load of 3500 kw without exceeding 75% of the difference between nominal speed and the overspeed trip setpoint,
4. Simulating a loss of offsite power by itself, and:
  - a) Verifying de-energization of the emergency busses and load shedding from the emergency busses,
  - b) Verifying that the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After load sequencing is completed, the steady state voltage and frequency of the emergency busses shall be maintained at  $4160 \pm 420$  volts and  $60 \pm 1.2$  Hz during the test.
5. Verifying that, on a Safety Injection actuation test signal (without loss of offsite power), the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes.
6. Simulating a loss of offsite power in conjunction with a Safety Injection actuation test signal, and by:
  - a) Verifying de-energization of the emergency busses and load shedding from the emergency busses,
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### SURVEILLANCE REQUIREMENTS (Continued)

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  3. The pilot cell voltage is greater than or equal to 2.13 volts, and
  4. The overall battery voltage is greater than or equal to 250 volts.
- b. At least once per 92 days by verifying that:
1. The voltage of each connected cell is greater than or equal to 2.13 volts under float charge.
  2. The specific gravity, corrected to 77°F, and full electrolyte level (fluid at the bottom of the maximum level indication mark), of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.03 from the value observed during the previous test, and
  3. The electrolyte level of each connected cell is between the top of the minimum level indication mark and the bottom of the maximum level indication mark.
- c. At least once per 18 months by verifying that:
1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,
  2. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material,
  3. The battery charger will supply at least 140 amperes at greater than or equal to 250 volts for at least 4 hours.
- d. At least once per 18 months, perform a battery service test during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the times specified in Table 4.8-2 with the battery charger disconnected. The battery terminal voltage shall be maintained greater than or equal to 210 volts throughout this test.

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### SURVEILLANCE REQUIREMENTS (Continued)

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- e. At least once per 60 months perform a battery discharge test during shutdown (MODES 5 or 6), by verifying that the battery capacity is at least 80% of the manufacturer's rating. This performance discharge test shall be performed in place of the battery service test.