

ATTACHMENT 'B' TO AEP:NRC:00313

REVISED TECHNICAL SPECIFICATION PAGES  
DONALD C. COOK NUCLEAR PLANT UNIT NOS. 1 AND 2

8002 270327



CHANGE NO. 1

AEP:NRC:00313

## PLANT SYSTEMS

### AUXILIARY FEEDWATER SYSTEM

#### LIMITING CONDITION FOR OPERATION

3.7.1.2 At least three steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

- a. Two\* feedwater pumps, each capable of being powered from separate emergency busses, and
- b. One feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2 and 3.

#### ACTION:

With one auxiliary feedwater pump inoperable, restore at least three auxiliary feedwater pumps (two capable of being powered from separate emergency busses and one capable of being powered by an OPERABLE steam supply system) to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

#### SURVEILLANCE REQUIREMENTS

4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
  1. Verifying that the steam turbine driven pump develops a discharge pressure of  $\geq 1285$  psig at a flow of  $\geq 700$  gpm when the secondary steam supply pressure is greater than 310 psig.
  2. Verifying that each valve (manual, power operated or automatic) in the flow path, including valves which are locked, sealed or otherwise secured in position, is in its correct position.
- b. At least once per 18 months by:
  1. Verifying that each automatic valve in the flow path actuates to its correct position on a Safety Injection test signal.

\*Shared with D. C. COOK - UNIT 1



## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

3. Verifying that each pump operates for at least 15 minutes.
  4. Cycling each testable power operated or automatic valve in the flow path through at least one complete cycle of full travel.
  5. Verifying that each valve (manual, power operated or automatic) in the flow path, including valves which are locked, sealed or otherwise secured in position, is in its correct position.
- b. At least once per 18 months during shutdown by:
1. Cycling each power operated valve in the flow path that is not testable during plant operation, through at least once complete cycle of full travel.
  2. Verifying that each motor driven pump starts automatically upon receipt of each of the following signals:
    - a) Loss of main feedwater pumps.
    - b) Safety Injection.
    - c) Steam Generator Water Level--Low-Low from one steam generator, 2 out of 3 channels.
  3. Verifying that the steam turbine driven pump starts automatically upon receipt of each of the following signals:
    - a) Steam Generator Water Level--Low-Low from two steam generators, 2 out of 3 channels.
    - b) Reactor Coolant Pump Bus Undervoltage.

CHANGE NO. 2

AEP:NRC:00313

D. C. Cook Unit 1

3/4 4-27

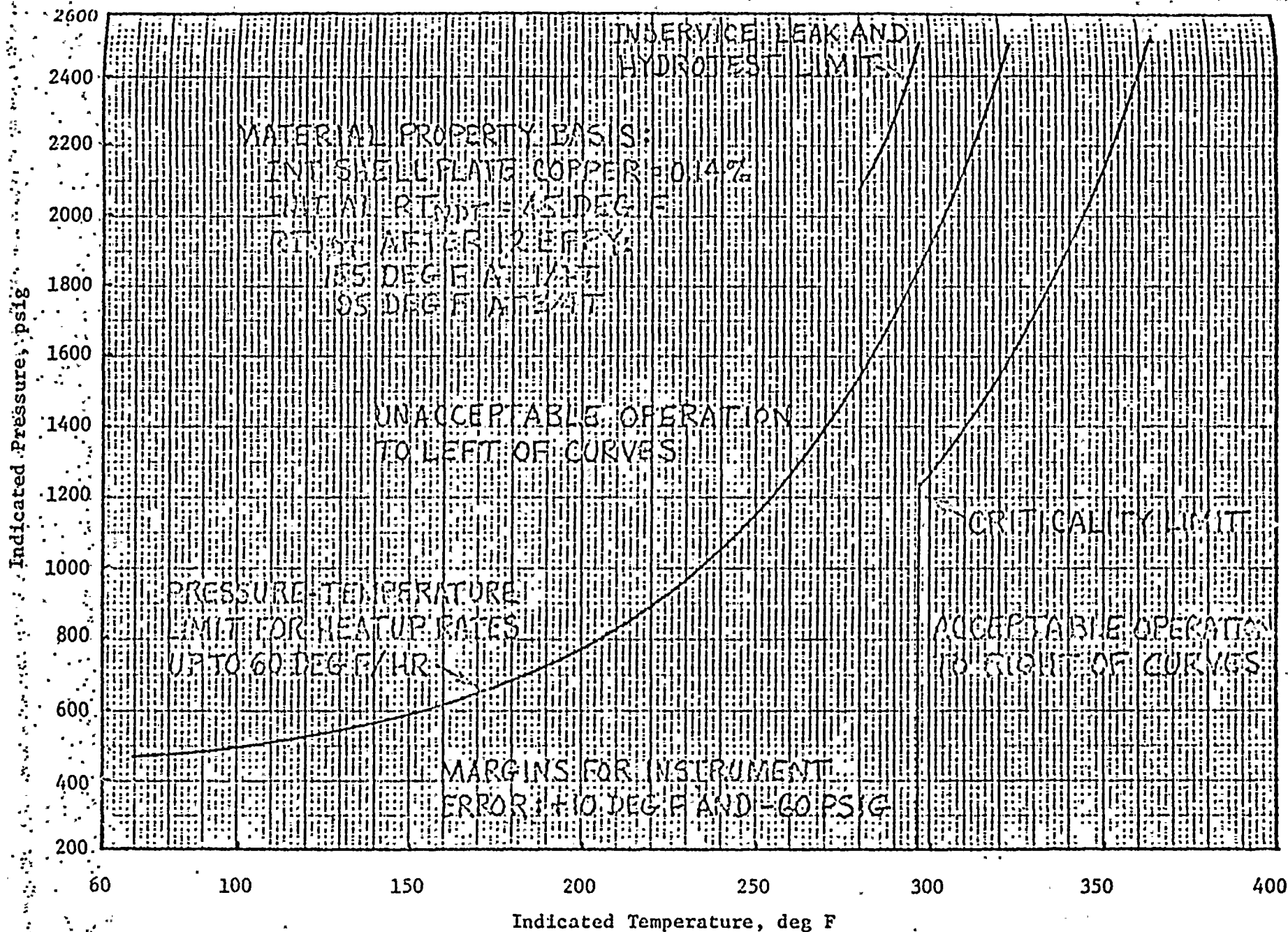


Figure 3.4 - 2 DONALD C. COOK UNIT NO. 1 REACTOR COOLANT HEATUP LIMITATIONS APPLICABLE



3/4 4-28

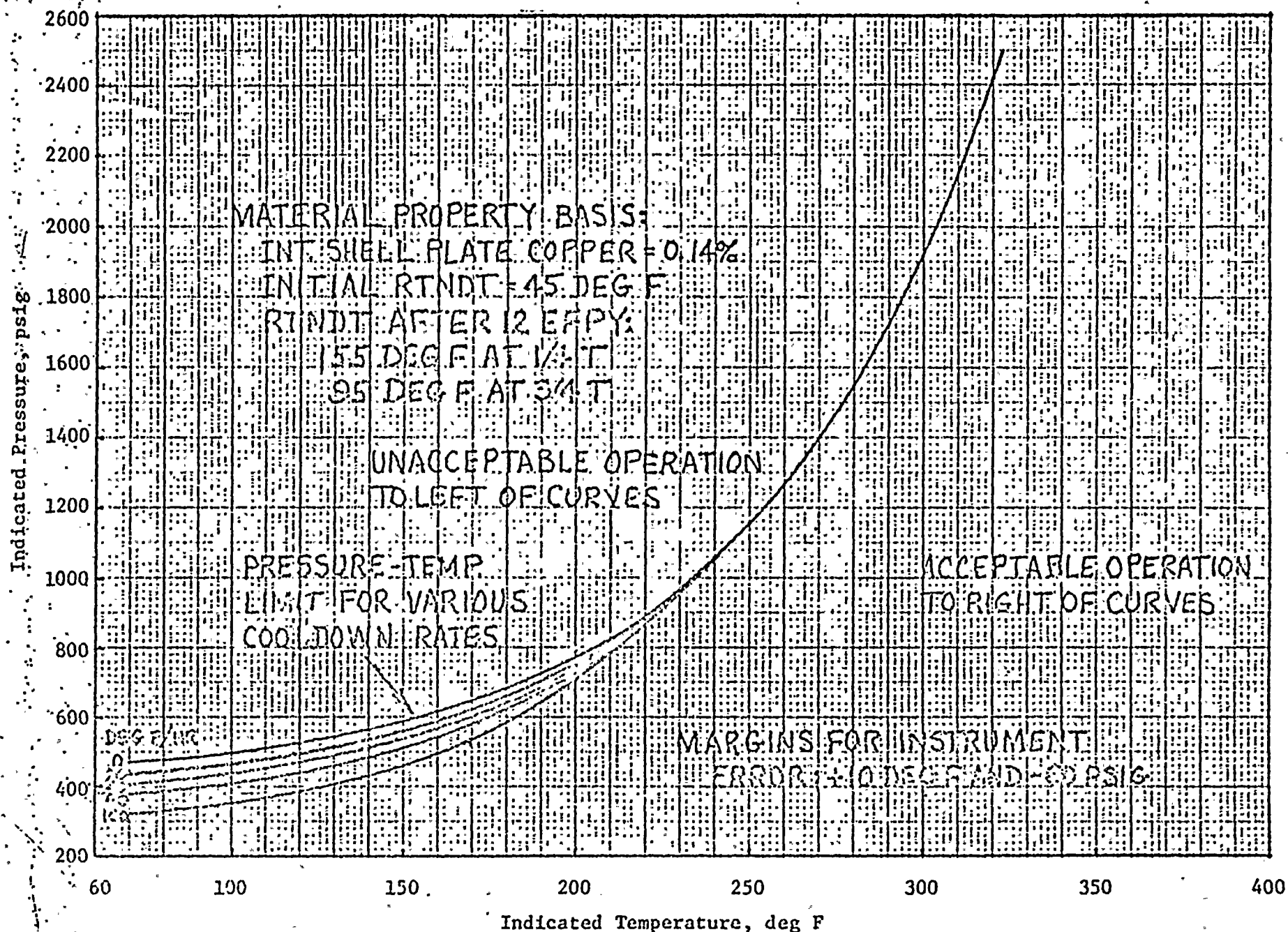


Figure 3.4 - 3 DONALD C. COOK UNIT NO. 1 REACTOR COOLANT COOLDOWN LIMITATIONS APPLICABLE  
 FOR PERIODS UP TO 12 EFFECTIVE FULL POWER YEARS

CHANGE NO. 3

AEP:NRC:00313

## ADMINISTRATIVE CONTROLS

### 6.9 REPORTING REQUIREMENTS (Continued)

- e. Seismic event analysis, Specification 4.3.3.3.2.
- f. Sealed Source leakage on excess of limits, Specification 4.7.7.1.3.
- g. Fire Detection Instrumentation, Specification 3.3.3.7.
- h. Fire Suppression Systems, Specifications 3.7.9.1, 3.7.9.2, 3.7.9.3 and 3.7.9.4.

### 6.10 RECORD RETENTION

6.10.1 The following records shall be retained for at least five years:

- a. Records and logs of unit operation covering time interval at each power level.
- b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
- c. All REPORTABLE OCCURRENCES submitted to the Commission.
- d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
- e. Records of reactor tests and experiments.
- f. Records of changes made to the procedures required by Specification 6.8.1.
- g. Records of radioactive shipments.
- h. Records of sealed source leak tests and results.
- i. Records of annual physical inventory of all sealed source material of record.

6.10.2 The following records shall be retained for the duration of the Facility Operating License:

- a. Records and drawing changes reflecting unit design modifications made to systems and equipment described in the Final Safety Analysis Report.
- b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.

CHANGE NO. 4

AEP:NRC:00313

## ADMINISTRATIVE CONTROLS

occurrence of the event. The written report shall include, as a minimum, a completed copy of a licensee event report form. Information provided on the licensee event report form shall be supplemented, as needed, by additional narrative material to provide complete explanation of the circumstances surrounding the event.

- a. Reactor protection system or engineered safety feature instrument settings which are found to be less conservative than those established by the technical specifications but which do not prevent the fulfillment of the functional requirements of affected systems.
- b. Conditions leading to operation in a degraded mode permitted by a limiting condition for operation or plant shutdown required by a limiting condition for operation.
- c. Observed inadequacies in the implementation of administrative or procedural controls which threaten to cause reduction of degree of redundancy provided in reactor protection systems or engineered safety feature systems.
- d. Abnormal degradation of systems other than those specified in 6.9.1.8.c above designed to contain radioactive material resulting from the fission process.

### SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Director of the Office of Inspection and Enforcement Regional Office within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification:

- a. ECCS Actuation, Specifications 3.5.2 and 3.5.3.
- b. Inoperable Seismic Monitoring Instrumentation, Unit No. 1 Specification 3.3.3.3.
- c. Inoperable Meteorological Monitoring Instrumentation, Unit No. 1 Specification 3.3.3.4.
- d. Fire Detection Instrumentation, Specification 3.3.3.8.
- e. Fire Suppression Systems, Specifications, 3.7.9.1, 3.7.9.2, 3.7.9.3 and 3.7.9.4.
- f. Seismic event analysis, Specification 4.3.3.3.2.

DONALD C. COOK NUCLEAR PLANT

UNIT NO. 1

CHANGE NOS. 5 AND 6

AEP:NRC:00313

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
13. Steam Generator Water Level--Low-Low	$\geq 17\%$ of narrow range instrument span--each steam generator	$\geq 17\%$ of narrow range instrument span--each steam generator
14. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	$< 0.71 \times 10^6$ lb/hr of steam flow at RATED THERMAL POWER coincident with steam generator water level $\geq 25\%$ of narrow range instrument span--each steam generator	$< 0.73 \times 10^6$ lbs/hr of steam flow at RATED THERMAL POWER coincident with steam generator water level $\geq 24\%$ of narrow range instrument span--each steam generator
15. Undervoltage-Reactor Coolant Pumps	$\geq 2750$ volts--each bus	$\geq 2725$ volts--each bus
16. Underfrequency-Reactor Coolant Pumps	$\geq 57.5$ Hz - each bus	$\geq 57.4$ Hz - each bus
17. Turbine Trip		
A. Low Trip System Pressure	$\geq 800$ psig	$\geq 750$ psig
B. Turbine Stop Valve Closure	$\geq 1\%$ open	$\geq 1\%$ open
18. Safety Injection Input from ESF	Not Applicable	Not Applicable
19. Reactor Coolant Pump Breaker Position Trip	Not Applicable	Not Applicable

D. C. COOK - UNIT 1

2-6

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level -- Low-Low	3/Stm. Gen.	2/Stm. Gen. any Stm. Gen.	2/Stm. Gen.	1, 2, 3	14*
b. 4 kv Bus Loss of Voltage	2/Bus	2/Bus	2/Bus	1, 2, 3	14*
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level -- Low-Low	3/Stm. Gen.	2/Stm. Gen. any 2 Stm. Gen.	2/Stm. Gen.	1, 2, 3	14*
8. LOSS OF POWER					
a. 4 kv Bus Loss of Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3	14*
b. 4 kv Bus Degraded Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3	14*





TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS		
a. Steam Generator Water Level -- Low-Low	> 17% of narrow range instrument span each steam generator	> 17% of narrow range instrument span each steam generator
b. 4 kv Bus Loss of Voltage	3196 volts with a 2 second delay	3196 $\pm$ 18 volts with a 2 $\pm$ .2 second delay
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS		
a. Steam Generator Water Level -- Low-Low	> 17% of narrow range instrument span each steam generator	> 17% of narrow range instrument span each steam generator
8. LOSS OF POWER		
a. 4 kv Bus Loss of Voltage	3196 volts with a 2 second delay	3196 $\pm$ 18 volts with a 2 $\pm$ .2 second delay
b. 4 kv Bus Degraded Voltage	3596 volts with a 2.0min. time delay	3596 $\pm$ 18 volts with a 2.0 minute $\pm$ 6 second time delay



D. C. COOK-UNIT 1  
3/4-3-33

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE REQUIRED</u>
4. STEAM LINE ISOLATION				
a. Manual	N.A.	N.A.	M(1)	1, 2, 3
b. Automatic Actuation Logic	N.A.	N.A.	M(2)	1, 2, 3
c. Containment Pressure-- High-High	S	R	M(3)	1, 2, 3
d. Steam Flow in Two Steam Lines--High Coincident with T <sub>avg</sub> -- Low or Steam Line Pressure--Low	S	R	M	1, 2, 3
5. TURBINE TRIP AND FEEDWATER ISOLATION				
a. Steam Generator Water Level--High-High	S	R	M	1, 2, 3
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS				
a. Steam Generator Water Level--Low-Low	S	R	M	1, 2, 3
b. 4 kv Bus Loss of Voltage	S	R	M	1, 2, 3

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE REQUIRED</u>
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS				
a. Steam Generator Water Level--Low-Low	S	R	M	1, 2, 3
8. LOSS OF POWER				
a. 4 kv Bus Loss of Voltage	S	R	M	1, 2, 3
b. 4 kv Bus Degraded Voltage	S	R	M	1, 2, 3

D. C. COOK - UNIT 1

3/4 3-33a

DONALD C. COOK NUCLEAR PLANT

UNIT NO. 2

CHANGE NOS. 5 AND 6

AEP:NRC:00313

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
13. Steam Generator Water Level - Low-Low	$\geq 21\%$ of narrow range instrument span - each steam generator	$\geq 21\%$ of narrow range instrument span - each steam generator
14. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	$< 1.47 \times 10^6$ lb/hr of steam flow at RATED THERMAL POWER coincident with steam generator water level $\geq 25\%$ of narrow range instrument span - each steam generator	$< 1.56 \times 10^6$ lbs/hr of steam flow at RATED THERMAL POWER coincident with steam generator water level $\geq 24\%$ of narrow range instrument span - each steam generator
15. Undervoltage - Reactor Coolant Pumps	$\geq 2750$ volts - each bus	$\geq 2725$ volts - each bus
16. Underfrequency - Reactor Coolant Pumps	$\geq 58.2$ Hz - each bus	$\geq 58.1$ Hz - each bus
17. Turbine Trip		
A. Low Trip System Pressure	$\geq 58$ psig	$\geq 57$ psig
B. Turbine Stop Valve Closure	$\geq 1\%$ open	$\leq 1\%$ open
18. Safety Injection Input from ESF	Not Applicable	Not Applicable
19. Reactor Coolant Pump Breaker Position Trip	Not Applicable	Not Applicable

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level -- Low-Low	3/Stm. Gen.	2/Stm. Gen. any Stm. Gen.	2/Stm. Gen.	1, 2, 3	14*
b. 4 kv Bus Loss of Voltage	2/Bus	2/Bus	2/Bus	1, 2, 3	14*
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level -- Low-Low	3/Stm. Gen.	2/Stm. Gen. any 2 Stm. Gen.	2/Stm. Gen.	1, 2, 3	14*
8. LOSS OF POWER					
a. 4 kv Bus Loss of Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3	14*
b. 4 kv Bus Degraded Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3	14*





TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS		
a. Steam Generator Water Level -- Low-Low	> 21% of narrow range instrument span each steam generator	> 21% of narrow range instrument span each steam generator
b. 4 kv Bus Loss of Voltage	3196 volts with a 2 second delay	3196 $\pm$ 18 volts with a 2 $\pm$ .2 second delay
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS		
a. Steam Generator Water Level -- Low-Low	> 21% of narrow range instrument span each steam generator	> 21% of narrow range instrument span each steam generator
8. LOSS OF POWER		
a. 4 kv Bus Loss of Voltage	3196 volts with a 2 second delay	3196 $\pm$ 18 volts with a 2 $\pm$ .2 second delay
b. 4 kv Bus Degraded Voltage	3596 volts with a 2.0min. time delay	3596 $\pm$ 18 volts with a 2.0 minute $\pm$ 6 second time delay

TABLE 4.3-2 (Continued)ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE REQUIRED</u>
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS				
a. Steam Generator Water Level--Low-Low	S	R	M	1, 2, 3
8. LOSS OF POWER				
a. 4 kv Bus Loss of Voltage	S	R	M	1, 2, 3
b. 4 kv Bus Degraded Voltage	S	R	M	1, 2, 3



ATTACHMENT 'C' TO AEP:NRC:00313

SOUTHWEST RESEARCH INSTITUTE REPORT;  
SWRI: PROJECT 02-4770

REACTOR VESSEL MATERIAL SURVEILLANCE  
PROGRAM FOR DONALD C. COOK UNIT NO. 1  
ANALYSIS OF CAPSULE T

