

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.2 POWER DISTRIBUTION LIMITS</u>	
3/4.2.1 AXIAL FLUX DIFFERENCE.....	3/4 2-1
3/4.2.2 HEAT FLUX HOT CHANNEL FACTOR.....	3/4 2-5
3/4.2.3 NUCLEAR ENTHALPY HOT CHANNEL FACTOR.....	3/4 2-9
3/4.2.4 QUADRANT POWER TILT RATIO.....	3/4 2-13
3/4.2.5 DNB PARAMETERS	
MODE 1.....	3/4 2-15
MODES 2, 3, 4 and 5.....	3/4 2-17
3/4.2.6 ALLOWABLE POWER LEVEL.....	3/4 2-19
<u>3/4.3 INSTRUMENTATION</u>	
3/4.3.1 REACTOR TRIP SYSTEM INSTRUMENTATION.....	3/4 3-1
3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION.....	3/4 3-14
3/4.3.3 MONITORING INSTRUMENTATION	
Radiation Monitoring Instrumentation.....	3/4 3-34
Movable Incore Detectors.....	3/4 3-38
Seismic Instrumentation.....	3/4 3-38a
Meteorological Instrumentation.....	3/4 3-39
Remote Shutdown Instrumentation.....	3/4 3-42
Fire Detection Instrumentation.....	3/4 3-45
Post-Accident Instrumentation.....	3/4 3-50
Radioactive Liquid Effluent Instrumentation.....	3/4 3-53
Radioactive Gaseous Process and Effluent Monitoring Instrumentation.....	3/4 3-62
3/4.3.4 TURBINE OVERSPEED PROTECTION.....	3/4 3-65
<u>3/4.4 REACTOR COOLANT SYSTEM</u>	
3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION	
Startup and Power Operation.....	3/4 4-1

INDEX

BASES

SECTION

PAGE

<u>3/4.0</u>	<u>APPLICABILITY</u>	B 3/4 0-1
<u>3/4.1</u>	<u>REACTIVITY CONTROL SYSTEMS</u>	
3/4.1.1	BORATION CONTROL	B 3/4 1-1
3/4.1.2	BORATION SYSTEMS	B 3/4 1-2
3/4.1.3	MOVABLE CONTROL ASSEMBLIES	B 3/4 1-4
<u>3/4.2</u>	<u>POWER DISTRIBUTION LIMITS</u>	
3/4.2.1	AXIAL FLUX DIFFERENCE	B 3/4 2-1
3/4.2.2 and 3/4.2.3	HEAT FLUX HOT CHANNEL FACTOR AND NUCLEAR ENTHALPY HOT CHANNEL FACTOR	B 3/4 2-4
3/4.2.4	QUADRANT POWER TILT RATIO	B 3/4 2-5
3/4.2.5	DNB PARAMETERS	B 3/4 2-5
3/4.2.6	ALLOWABLE POWER LEVEL	B 3/4 2-5
<u>3/4.3</u>	<u>INSTRUMENTATION</u>	
3/4.3.1 and 3/4.3.2	PROTECTIVE AND ENGINEERED SAFETY FEATURE INSTRUMENTATION	B 3/4 3-1
3/4.3.3	MONITORING INSTRUMENTATION	B 3/4 3-1a
3/4.3.4	TURBINE OVERSPEED PROTECTION	B 3/4 3-4
<u>3/4.4</u>	<u>REACTOR COOLANT SYSTEM</u>	
3/4.4.1	REACTOR COOLANT LOOPS	B 3/4 4-1
3/4.4.2 and 3/4.4.3	SAFETY VALVES	B 3/4 4-2
3.4.4.4	PRESSURIZER	B 3/4 4-2
3/4.4.5	STEAM GENERATOR TUBE INTEGRITY.....	B 3/4 4-2a
3/4.4.6	REACTOR COOLANT SYSTEM LEAKAGE	B 3/4 4-3
3.4.4.7	CHEMISTRY	B 3/4 4-4
3/4.4.8	SPECIFIC ACTIVITY	B 3/4 4-5

INSTRUMENTATION

3/4.3.4 TURBINE OVERSPEED PROTECTION

LIMITING CONDITION FOR OPERATION

3.3.4.1 At least one turbine overspeed protection system shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With one stop valve or one control valve per high pressure turbine steam lead inoperable or with one reheat stop valve or one reheat intercept valve per low pressure turbine steam lead inoperable, operation may continue for up to 72 hours provided the inoperable valve(s) is restored to OPERABLE status or at least one valve in the affected steam lead is closed; otherwise, isolate the turbine from the steam supply within the next 6 hours.
- b. With the above required turbine overspeed protection system otherwise inoperable, within 6 hours either restore the system to OPERABLE status or isolate the turbine from the steam supply.

SURVEILLANCE REQUIREMENTS

4.3.4.1.1 The provisions of Specification 4.0.4 are not applicable.

4.3.4.1.2 The above required turbine overspeed protection system shall be demonstrated OPERABLE:

- a. At least once per 7 days by cycling each of the following valves through at least one complete cycle from the running position.
 1. Four high pressure turbine stop valves.
 2. Four high pressure turbine control valves.
 3. Six low pressure turbine reheat stop valves.
 4. Six low pressure turbine reheat intercept valves.

INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

- b. At least once per 31 days by direct observation of the movement of each of the above valves through one complete cycle from the running position.
- c. At least once per 18 months by performance of a CHANNEL CALIBRATION on the turbine overspeed protection systems.
- d. At least once per 40 months by disassembling at least one of each of the above valves and performing a visual and surface inspection of valve seats, disks and stems and verifying no unacceptable flaws or corrosion.

3/4.3 INSTRUMENTATION

BASES

3/4.3.3.10 RADIOACTIVE GASEOUS EFFLUENT INSTRUMENTATION

The radioactive effluent gaseous instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases. The alarm/trip setpoints for these instruments shall be calculated in accordance with NRC approved methods in the OCDM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. This instrumentation also includes provisions for monitoring the concentrations of potentially explosive gas mixtures in the waste gas holdup system. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria specified in Section 11.3 of the Final Safety Analysis Report for the Donald C. Cook Nuclear Plant.

~~3/4.3.4 TURBINE OVERSPEED PROTECTION~~

~~This specification is provided to ensure that the turbine overspeed protection instrumentation and the turbine speed control valves are OPERABLE and will protect the turbine from excessive overspeed. Protection from turbine excessive overspeed is required since excessive overspeed of the turbine could generate potentially damaging missiles which could impact and damage safety related components, equipment or structures.~~

Attachment 3 to AEP:NRC:1168A

PROPOSED REVISED TECHNICAL SPECIFICATION PAGES

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.2 POWER DISTRIBUTION LIMITS</u>	
3/4.2.1 AXIAL FLUX DIFFERENCE	3/4 2-1
3/4.2.2 HEAT FLUX HOT CHANNEL FACTOR	3/4 2-5
3/4.2.3 NUCLEAR ENTHALPY HOT CHANNEL FACTOR	3/4 2-9
3/4.2.4 QUADRANT POWER TILT RATIO.....	3/4 2-13
3/4.2.5 DNB PARAMETERS	
MODE 1	3/4 2-15
MODES 2, 3, 4 and 5	3/4 2-17
3/4.2.6 ALLOWABLE POWER LEVEL	3/4 2-19
<u>3/4.3 INSTRUMENTATION</u>	
3/4.3.1 REACTOR TRIP SYSTEM INSTRUMENTATION	3/4 3-1
3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM	
INSTRUMENTATION	3/4 3-14
3/4.3.3 MONITORING INSTRUMENTATION	
Radiation Monitoring Instrumentation	3/4 3-34
Movable Incore Detectors	3/4 3-38
Seismic Instrumentation	3/4 3-38a
Meteorological Instrumentation	3/4 3-39
Remote Shutdown Instrumentation	3/4 3-42
Fire Detection Instrumentation	3/4 3-45
Post-Accident Instrumentation	3/4 3-50
Radioactive Liquid Effluent Instrumentation.....	3/4 3-53
Radioactive Gaseous Process and Effluent Monitoring	
Instrumentation.....	3/4 3-62
<u>3/4.4 REACTOR COOLANT SYSTEM</u>	
3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION	
Startup and Power Operation	3/4 4-1

INDEX

BASES

SECTION

PAGE

<u>3/4.0</u>	<u>APPLICABILITY</u>	B 3/4 0-1
<u>3/4.1</u>	<u>REACTIVITY CONTROL SYSTEMS</u>	
3/4.1.1	BORATION CONTROL	B 3/4 1-1
3/4.1.2	BORATION SYSTEMS	B 3/4 1-2
3/4.1.3	MOVABLE CONTROL ASSEMBLIES	B 3/4 1-4
<u>3/4.2</u>	<u>POWER DISTRIBUTION LIMITS</u>	
3/4.2.1	AXIAL FLUX DIFFERENCE	B 3/4 2-1
3/4.2.2	and 3/4.2.3 HEAT FLUX HOT CHANNEL FACTOR AND NUCLEAR ENTHALPY HOT CHANNEL FACTOR	B 3/4 2-4
3/4.2.4	QUADRANT POWER TILT RATIO	B 3/4 2-5
3/4.2.5	DNB PARAMETERS	B 3/4 2-5
3/4.2.6	ALLOWABLE POWER LEVEL	B 3/4 2-5
<u>3/4.3</u>	<u>INSTRUMENTATION</u>	
3/4.3.1	and 3/4.3.2 PROTECTIVE AND ENGINEERED SAFETY FEATURE INSTRUMENTATION	B 3/4 3-1
3/4.3.3	MONITORING INSTRUMENTATION	B 3/4 3-1a
<u>3/4.4</u>	<u>REACTOR COOLANT SYSTEM</u>	
3/4.4.1	REACTOR COOLANT LOOPS	B 3/4 4-1
3/4.4.2	and 3/4.4.3 SAFETY VALVES	B 3/4 4-2
3.4.4.4	PRESSURIZER	B 3/4 4-2
3/4.4.5	STEAM GENERATOR TUBE INTEGRITY.....	B 3/4 4-2a
3/4.4.6	REACTOR COOLANT SYSTEM LEAKAGE	B 3/4 4-3
3.4.4.7	CHEMISTRY	B 3/4 4-4
3/4.4.8	SPECIFIC ACTIVITY	B 3/4 4-5

3/4.3 INSTRUMENTATION

BASES

3/4.3.3.10 RADIOACTIVE GASEOUS EFFLUENT INSTRUMENTATION

The radioactive effluent gaseous instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases. The alarm/trip setpoints for these instruments shall be calculated in accordance with NRC approved methods in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. This instrumentation also includes provisions for monitoring the concentrations of potentially explosive gas mixtures in the waste gas holdup system. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria specified in Section 11.3 of the Final Safety Analysis Report for the Donald C. Cook Nuclear Plant.

Attachment 4 to AEP:NRC:1168A

COOK NUCLEAR PLANT COST BENEFICIAL LICENSING ACTION
DELETE UNIT 2 TURBINE OVERSPEED PROTECTION SYSTEM T/S

Delete Unit 2 Turbine Overspeed Protection System T/S

Regulatory Requirement:

Cook Nuclear Plant Unit 2 Technical Specifications 3/4.3.4 requires that turbine overspeed protection valve testing be performed every 7 days, and a number of other detailed requirements, to assure that the Unit 2 turbine overspeed protection system is operable.

Effect of Requirement:

There is a significant potential for the action item in T/S 3/4.3.4 to lead to a unit shut down. Also, the 7 day test frequency creates a constraint for mode changes, which increases outage critical path time.

Rationale for Regulatory Change:

Deleting this requirement will make the Unit 2 T/S consistent with the new standard T/S, and with the Unit 1 T/S. These requirements are unique to Unit 2.

Approximate Cost of Requirement:

The requirement adds about 15 hours to critical path to each outage, because it does not permit a change from mode 4 to mode 3. At \$250,000 per day for replacement power, 15 hours per outage, and approximately 11.5 outages remaining for Unit 2, the plant lifetime cost savings from eliminating this requirement is approximately \$1,800,000.

Identification:

AEPSI initiated CBLA effort.

