

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 POWER IMBALANCE .....	3/4 2-1
3/4.2.2 NUCLEAR HEAT FLUX HOT CHANNEL FACTOR - $F_Q$ .....	3/4 2-5
3/4.2.3 NUCLEAR ENTHALPY RISE HOT CHANNEL FACTOR - $F_{\Delta H}^N$ ..	3/4 2-7
3/4.2.4 QUADRANT POWER TILT .....	3/4 2-9
3/4.2.5 DNB PARAMETERS .....	3/4 2-13
<u>3/4.3 INSTRUMENTATION</u>	
3/4.3.1 REACTOR PROTECTION SYSTEM INSTRUMENTATION .....	3/4 3-1
3/4.3.2 SAFETY SYSTEM INSTRUMENTATION	
Safety Features Actuation System .....	3/4 3-9
Steam and Feed Rupture Control System .....	3/4 3-23
Anticipatory Reactor Trip System .....	3/4 3-30a
3/4.3.3 MONITORING INSTRUMENTATION	
Radiation Monitoring Instrumentation .....	3/4 3-31
Incore Detectors - Deleted .....	3/4 3-35
Deleted .....	3/4 3-37
Deleted .....	3/4 3-40
Remote Shutdown Instrumentation .....	3/4 3-43
Post-Accident Monitoring Instrumentation .....	3/4 3-46
Deleted	
Waste Gas System Oxygen Monitor - Deleted .....	3/4 3-57
<u>3/4.4 REACTOR COOLANT SYSTEM</u>	
3/4.4.1 COOLANT LOOPS AND COOLANT CIRCULATION	
Startup and Power Operation .....	3/4 4-1
Shutdown and Hot Standby .....	3/4 4-2
3/4.4.2 SAFETY VALVES - SHUTDOWN .....	3/4 4-3
3/4.4.3 SAFETY VALVES AND PILOT OPERATED RELIEF VALVE - OPERATING .....	3/4 4-4

9908030231 990726  
PDR ADOCK 05000346  
P PDR

INDEXLIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
3/4.4.4 PRESSURIZER.....	3/4 4-5
3/4.4.5 STEAM GENERATORS.....	3/4 4-6
3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE	
Leakage Detection Systems.....	3/4 4-13
Operational Leakage.....	3/4 4-15
3/4.4.7 <del>CHEMISTRY-Deleted</del> .....	3/4 4-17
3/4.4.8 SPECIFIC ACTIVITY.....	3/4 4-20
3/4.4.9 PRESSURE/TEMPERATURE LIMITS	
Reactor Coolant System.....	3/4 4-24
Pressurizer.....	3/4 4-29
3/4.4.10 STRUCTURAL INTEGRITY.....	3/4 4-30
3/4.4.11 Deleted.....	3/4 4-32
 <u>3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)</u>	
3/4.5.1 CORE FLOODING TANKS.....	3/4 5-1
3/4.5.2 ECCS SUBSYSTEMS - $T_{avg} \geq 280^{\circ}F$ .....	3/4 5-3
3/4.5.3 ECCS SUBSYSTEMS - $T_{avg} < 280^{\circ}F$ .....	3/4 5-6
3/4.5.4 BORATED WATER STORAGE TANK.....	3/4 5-7

INDEX

BASES

---

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.0 APPLICABILITY</u> .....	B 3/4 0-1
<u>3/4.1 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 1-3
<u>3/4.2 POWER DISTRIBUTION LIMITS</u> .....	B 3/4 2-1
<u>3/4.3 INSTRUMENTATION</u>	
3/4.3.1 and 3/4.3.2 REACTOR PROTECTION SYSTEM AND SAFETY SYSTEMS INSTRUMENTATION .....	B 3/4 3-1
3/4.3.3 MONITORING INSTRUMENTATION .....	B 3/4 3-2
<u>3/4.4 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 4-1
3/4.4.4 PRESSURIZER .....	B 3/4 4-2
3/4.4.5 STEAM GENERATORS .....	B 3/4 4-2
3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE .....	B 3/4 4-4
3/4.4.7 <del>CHEMISTRY Deleted</del> .....	B 3/4 4-5
3/4.4.8 SPECIFIC ACTIVITY .....	B 3/4 4-5
3/4.4.9 PRESSURE/TEMPERATURE LIMITS .....	B 3/4 4-6
3/4.4.10 STRUCTURAL INTEGRITY .....	B 3/4 4-13
3/4.4.11 Deleted .....	B 3/4 4-13

INSTRUMENTATION**INFORMATION ONLY**3/4.3.3 MONITORING INSTRUMENTATIONRADIATION MONITORING INSTRUMENTATIONLIMITING CONDITION FOR OPERATION

---

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

- a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

---

4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the modes at the frequencies shown in Table 4.3-3.

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ALARM/TRIP SETPOINT</u>	<u>MEASUREMENT RANGE</u>	<u>ACTION</u>
1. AREA MONITORS					
a. Fuel Storage Pool Area Emergency Ventilation System Actuation	1	**	≤ 2 × background	0.1 - 10 <sup>7</sup> mr/hr	22
2. PROCESS MONITORS					
a. Containment					
i. Gaseous Activity RCS Leakage Detection	1*	1, 2, 3, & 4	Not Applicable	10 - 10 <sup>6</sup> cpm	21
ii. Particulate Activity RCS Leakage Detection	1*	1, 2, 3, & 4	Not Applicable	10 - 10 <sup>6</sup> cpm	21

\* As required by Specification 3.4.6.L

\*\*With fuel in the storage pool or building

TABLE 3.3-6 (Continued)

TABLE NOTATION

- ACTION 21 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1. |
  
- ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.12. |

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE REQUIRED</u>
1. AREA MONITORS				
a. Fuel Storage Pool Area Emergency Ventilation System Actuation	S	E	M	**
2. PROCESS MONITORS				
a. Containment				
i. Gaseous Activity RCS Leakage Detection*	S	E	M	1, 2, 3 & 4
ii. Particulate Activity RCS Leakage Detection*	S	E	M	1, 2, 3 & 4

\* If required by Specification 3.4.6.1 to be OPERABLE.

\*\*With fuel in the storage pool or building

INSTRUMENTATIONINCORE DETECTORSLIMITING CONDITION FOR OPERATION

3.3.3.2 As a minimum, the incore detectors shall be OPERABLE as specified below:

- a. For AXIAL POWER IMBALANCE measurements:
  - 1. Nine detectors shall be arranged such that there are three detectors in each of three strings and there are three detectors lying in the same axial plane with one plane at the core mid plane and one plane in each axial core half.
  - 2. The axial planes in each core half shall be symmetrical about the core mid plane.
  - 3. The detector strings shall not have radial symmetry.
- b. For QUADRANT POWER TILT measurements with the Minimum Incore Detector System:
  - 1. Two sets of 4 detectors shall lie in each core half. Each set of detectors shall lie in the same axial plane. The two sets in the same core half may lie in the same axial plane.
  - 2. Detectors in the same plane shall have quarter core radial symmetry.
- e. For QUADRANT POWER TILT measurements, at least 75% of the Symmetric Incore Detectors in each core quadrant shall be OPERABLE.
- d. For  $F_{\Delta H}^N$  and  $F_Q$  measurements with the Incore Detector System at least 75% of all incore detectors in each core quadrant shall be OPERABLE.

APPLICABILITY: When the incore detection system is used for measurement of:

- a. The AXIAL POWER IMBALANCE.
- b. The QUADRANT POWER TILT.
- e.  $F_{\Delta H}^N$
- d.  $F_Q$

ACTION:

With less than the specified minimum incore detector arrangement OPERABLE, do not use incore detectors for the above applicable measurement. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

(Pages 3/4 3-35 through 3/4 3-42 have been deleted.)

The next page is 3/4 3-43.



INSTRUMENTATION

SURVEILLANCE REQUIREMENTS

---

4.3.3.2 The incore detector system shall be demonstrated OPERABLE:

- a. — By performance of a CHANNEL CHECK within 7 days prior to its use for measurement of the AXIAL POWER IMBALANCE or the QUADRANT POWER TILT.
- b. — At least once per 18 months by performance of a CHANNEL CALIBRATION which does not include the neutron detectors.

DELETED

(Pages ~~3/4 3-37~~ through ~~3/4 3-42~~ have been deleted.)  
The next page is page ~~3/4 3-43~~.

~~Pages 3/4 3-51 through 3/4 3-56 deleted. Next page is 3/4 3-57.~~

INSTRUMENTATIONWASTE GAS SYSTEM OXYGEN MONITORLIMITING CONDITION FOR OPERATION

---

3.3.3.9 The Waste Gas System Oxygen monitor shall be OPERABLE with its alarm setpoints set to ensure that the limits of Specification 3.11.2 are not exceeded.

APPLICABILITY: During additions to the waste gas surge tank.

ACTION:

- a. With the waste gas system oxygen monitor alarm setpoint less conservative than required by the above Specifications, declare the channel inoperable and comply with ACTION b.
- b. With the waste gas system oxygen monitor inoperable, additions to the waste gas surge tank may continue provided another method for ascertaining oxygen concentrations, such as grab sample analysis, is implemented to provide measurements at least once per four (4) hours during degassing and daily during other operations. Exert best efforts to return the waste gas system oxygen monitor to OPERABLE status within 30 days and, if unsuccessful, explain in the next Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner.
- e. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

---

4.3.3.9 The waste gas system oxygen monitor shall be demonstrated OPERABLE by:

- a. Performance of a CHANNEL CHECK at least once per 24 hours during additions to the waste gas surge tank.
- b. At least once per 92 days by performance of a CHANNEL CALIBRATION. The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:
  - 1. One volume percent oxygen, balance nitrogen; and
  - 2. Four volume percent oxygen, balance nitrogen.

REACTOR COOLANT SYSTEM

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

---

3.4.6.1 The following Reactor Coolant System leakage detection systems shall be OPERABLE:

- a. ~~The containment atmosphere particulate radioactivity monitoring system;~~
- ab. The containment sump level and flow monitoring system, and
- be. One ~~The~~ containment atmosphere ~~gaseous~~ radioactivity monitoring system, (gaseous or particulate).

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With the required containment sump level and flow monitoring system inoperable, operation may continue up to 30 days provided Surveillance Requirement 4.4.6.2.1.d is performed at least once per 24 hours.
- b. With the required containment atmosphere radioactivity monitor inoperable, operation may continue up to 30 days provided:
  - 1. Containment atmosphere grab samples are obtained and analyzed at least once per 24 hours,
  - or
  - 2. Surveillance Requirement 4.4.6.2.1.d is performed at least once per 24 hours.
- c. With the above required ACTION and associated completion time not met, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- d. With the required containment atmosphere radioactivity monitor and the containment sump level and flow monitoring system inoperable, enter TS 3.0.3 immediately.

~~With only two of the above required leakage detection systems OPERABLE, operation may continue for up to 30 days provided grab samples are obtained and analyzed at least once per 24 hours when the required gaseous or particulate radioactivity monitoring system is inoperable; otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

SURVEILLANCE REQUIREMENTS

---

4.4.6.1 The leakage detection systems shall be demonstrated OPERABLE by:

- a. Containment atmosphere particulate monitoring system-performance of CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST at the frequencies specified in Table 4.3-3.

# INFORMATION ONLY

## REACTOR COOLANT SYSTEM

### SURVEILLANCE REQUIREMENTS (Continued)

---

- b. Containment sump level and flow monitoring system-performance of CHANNEL CALIBRATION at least once each REFUELING INTERVAL. |
- c. Containment atmosphere gaseous monitoring system-performance of CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST at the frequencies specified in Table 4.3-3

# INFORMATION ONLY

## REACTOR COOLANT SYSTEM

### OPERATIONAL LEAKAGE

#### LIMITING CONDITION FOR OPERATION

---

3.4.6.2 Reactor Coolant System leakage shall be limited to:

- a. No PRESSURE BOUNDARY LEAKAGE,
- b. 1 GPM UNIDENTIFIED LEAKAGE,
- c. 150 GPD primary-to-secondary leakage through the tubes of any one steam generator,
- d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System,
- e. 10 GPM CONTROLLED LEAKAGE, and
- f. 5 GPM leakage from any Reactor Coolant System Pressure Isolation Valve as specified in Table 3.4-2.

APPLICABILITY: MODES 1, 2, 3 and 4

#### ACTION:

- a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours except as permitted by paragraph c below.
- c. In the event that integrity of any pressure isolation valve specified in Table 3.4-2 cannot be demonstrated, POWER OPERATION may continue, provided that at least two valves in each high pressure line having a non-functional valve are in and remain in, the mode corresponding to the isolated condition.(a)
- d. The provisions of Section 3.0.4 are not applicable for entry into MODES 3 and 4 for the purpose of testing the isolation valves in Table 3.4-2.

---

<sup>(a)</sup>Motor operated valves shall be placed in the closed position and power supplies deenergized.

# INFORMATION ONLY

## REACTOR COOLANT SYSTEM

### SURVEILLANCE REQUIREMENTS

---

4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

- a. Monitoring the containment atmosphere gaseous or particulate radioactivity at least once per 12 hours.
- b. Monitoring the containment sump level and flow indication at least once per 12 hours.
- c. Measurement of the CONTROLLED LEAKAGE from the reactor coolant pump seals to the makeup system when the Reactor Coolant System pressure is  $2185 \pm 20$  psig at least once per 31 days.
- d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours during steady state operation.
- e. An evaluation of secondary water radiochemistry for determination of primary to secondary leakage through the steam generators at least once per 72 hours during steady state operations.

4.4.6.2.2 Each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-2 shall be individually demonstrated OPERABLE by verifying leakage testing (or the equivalent) to be within its limit prior to entering MODE 2:

- a. After each refueling outage,
- b. Whenever the plant has been in COLD SHUTDOWN for 7 days, or more, and if leakage testing has not been performed in the previous 9 months, and
- c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve.
- d. The provisions of Specification 4.0.4 are not applicable for entry into MODES 3 or 4.

4.4.6.2.3 Whenever the integrity of a pressure isolation valve listed in Table 3.4-2 cannot be demonstrated, determine and record the integrity of the high pressure flowpath on a daily basis. Integrity shall be determined by performing either a leakage test of the remaining pressure isolation valve, or a combined leakage test of the remaining pressure isolation valve in a series with the closed motor operated containment isolation valve. In addition, record the position of the closed motor-operated containment isolation valve located in the high pressure piping on a daily basis.



# INFORMATION ONLY

TABLE 3.4-2  
REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

<u>SYSTEM</u>	<u>VALVE NUMBERS (b)</u>	<u>MAXIMUM ALLOWABLE LEAKAGE (a)(c)</u>
1. Decay Heat Removal	CF-30	≤ 5.0 gpm
2. Decay Heat Removal	CF-31	≤ 5.0 gpm
3. Decay Heat Removal	DH-76	≤ 5.0 gpm
4. Decay Heat Removal	DH-77	≤ 5.0 gpm

Notes:

- (a)
1. Leakage rates less than or equal to 1.0 gpm are considered acceptable.
  2. Leakage rates greater than 1.0 gpm but less than or equal to 5.0 gpm are considered acceptable if the latest measured rate has not exceeded the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.
  3. Leakage rates greater than 1.0 gpm but less than or equal to 5.0 gpm are considered unacceptable if the latest measured rate exceeded the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.
  4. Leakage rates greater than 5.0 gpm are considered unacceptable.
- (b) Valves CF-30 and CF-31 will be tested with the Reactor Coolant system pressure >1200 psig. Valves DH-76 and DH-77 will be tested with normal Core Flooding Tank pressure which is >575 psig. Minimum differential test pressure across each valve shall not be less than 150 psid.
- (c) To satisfy ALARA requirements, leakage may be measured indirectly (as from the performance of pressure indicators) if accomplished in accordance with approved procedures and supported by computations showing that the method is capable of demonstrating valve compliance with the leakage criteria.

REACTOR COOLANT SYSTEM

CHEMISTRY

LIMITING CONDITION FOR OPERATION

---

3.4.7 The Reactor Coolant System chemistry shall be maintained within the limits specified in Table 3.4-1.

APPLICABILITY: At all times.

ACTION:

MODES 1, 2, 3 and 4.

- a. With any one or more chemistry parameter in excess of its Steady State Limit but within its Transient Limit, restore the parameter to within its Steady State Limit within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With any one or more chemistry parameter in excess of its Transient Limit, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

At all other times

With the concentration of either chloride or fluoride in the Reactor Coolant System in excess of its Steady State Limit for more than 24 hours or in excess of its Transient Limit, reduce the Reactor Coolant System pressure to  $\leq 500$  psig, if applicable, and perform an engineering evaluation to determine the effects of the out of limit condition on the structural integrity of the Reactor Coolant System; determine that the Reactor Coolant System remains acceptable for continued operation prior to increasing the system pressure above 500 psig or prior to proceeding to MODE 4.

SURVEILLANCE REQUIREMENTS

---

4.4.7 The Reactor Coolant System chemistry shall be determined to be within the limits by analysis of those parameters at the frequencies specified in Table 4.4-3.

(Pages 3/4 4-17 through 3/4 4-19 have been deleted.)  
The next page is 3/4 4-20.

TABLE 3.4-1  
REACTOR-COOLANT SYSTEM

<u>PARAMETER</u>	<u>STEADY-STATE LIMIT</u>	<u>TRANSIENT LIMIT</u>
DISSOLVED OXYGEN*	$\leq 0.10$ ppm	$\leq 1.00$ ppm
CHLORIDE	$\leq 0.15$ ppm	$\leq 1.50$ ppm
FLUORIDE	$\leq 0.15$ ppm	$\leq 1.50$ ppm

\*Limit not applicable with  $T_{avg} \leq 250^\circ F$ .

TABLE 4.4.3

REACTOR-COOLANT SYSTEM

CHEMISTRY LIMITS SURVEILLANCE REQUIREMENTS

<u>PARAMETER</u>	<u>SAMPLE AND ANALYSIS FREQUENCY</u>
DISSOLVED OXYGEN <sup>1</sup>	At least once each 72 hours
CHLORIDE	At least once each 72 hours
FLUORIDE	At least once each 72 hours

---

<sup>1</sup>Not required with  $T_{avg} \leq 250^{\circ}F$ .

RADIOACTIVE EFFLUENTS

EXPLOSIVE GAS MIXTURE (Hydrogen rich systems not designed to withstand a hydrogen explosion)

LIMITING CONDITION FOR OPERATION

---

3.11.2 The concentration of oxygen in the waste gas system shall be limited to less than or equal to 2% by volume whenever the hydrogen concentration exceeds 4% by volume.

APPLICABILITY: At all times.

ACTION:

- a. With the concentration of oxygen in the waste gas system greater than 2% by volume but less than or equal to 4% by volume, reduce the oxygen concentration to the above limits, within 48 hours.
- b. With the concentration of oxygen in the waste gas system greater than 4% by volume and the hydrogen concentration greater than 4% by volume, immediately suspend all additions of waste gases to the system and reduce the concentration of oxygen to less than or equal to 2% by volume without delay.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

---

4.11.2 The concentrations of oxygen in the waste gas system shall be determined to be within the above limits by monitoring the waste gases in the waste gas system, as required by Specification ~~3.3.3.9~~.

### 3/4.3 INSTRUMENTATION

#### BASES

---

#### 3/4.3.3 MONITORING INSTRUMENTATION

##### 3/4.3.3.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring channels ensures that 1) the radiation levels are continually measured in the areas served by the individual channels and 2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded.

##### 3/4.3.3.2 INCORE DETECTORS

~~The OPERABILITY of the incore detectors ensures that the measurements obtained from use of this system accurately represent the spatial neutron flux distribution of the reactor core. See Bases Figures 3-1 and 3-2 for examples of acceptable minimum incore detector arrangements.~~

##### 3/4.3.3.3 SEISMIC INSTRUMENTATION

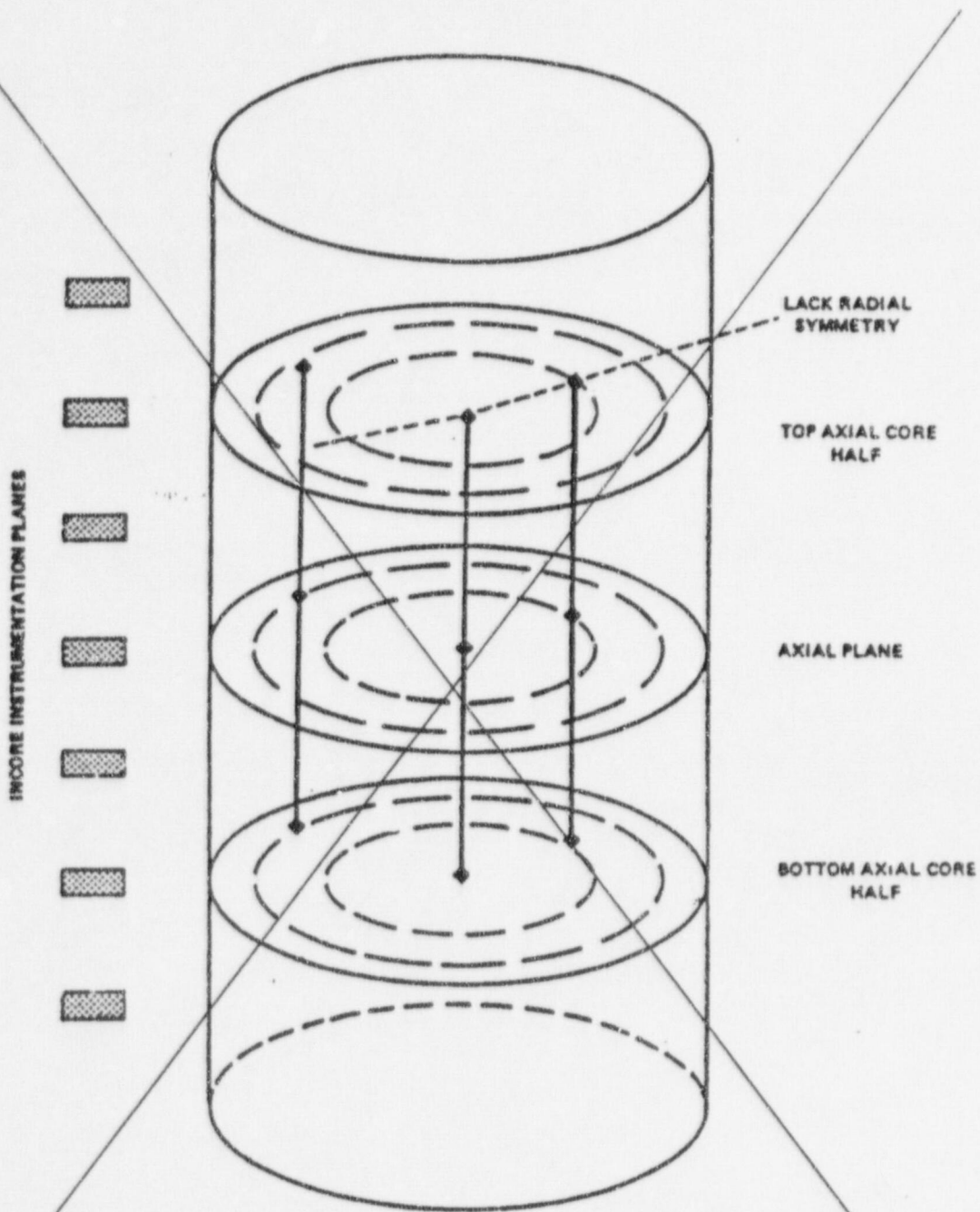
Deleted

##### 3/4.3.3.4 METEOROLOGICAL INSTRUMENTATION

Deleted

##### 3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of



Base Figure 3-1 Incore Instrumentation Specification  
Acceptable Minimum AXIAL POWER IMBALANCE Arrangement

Deleted

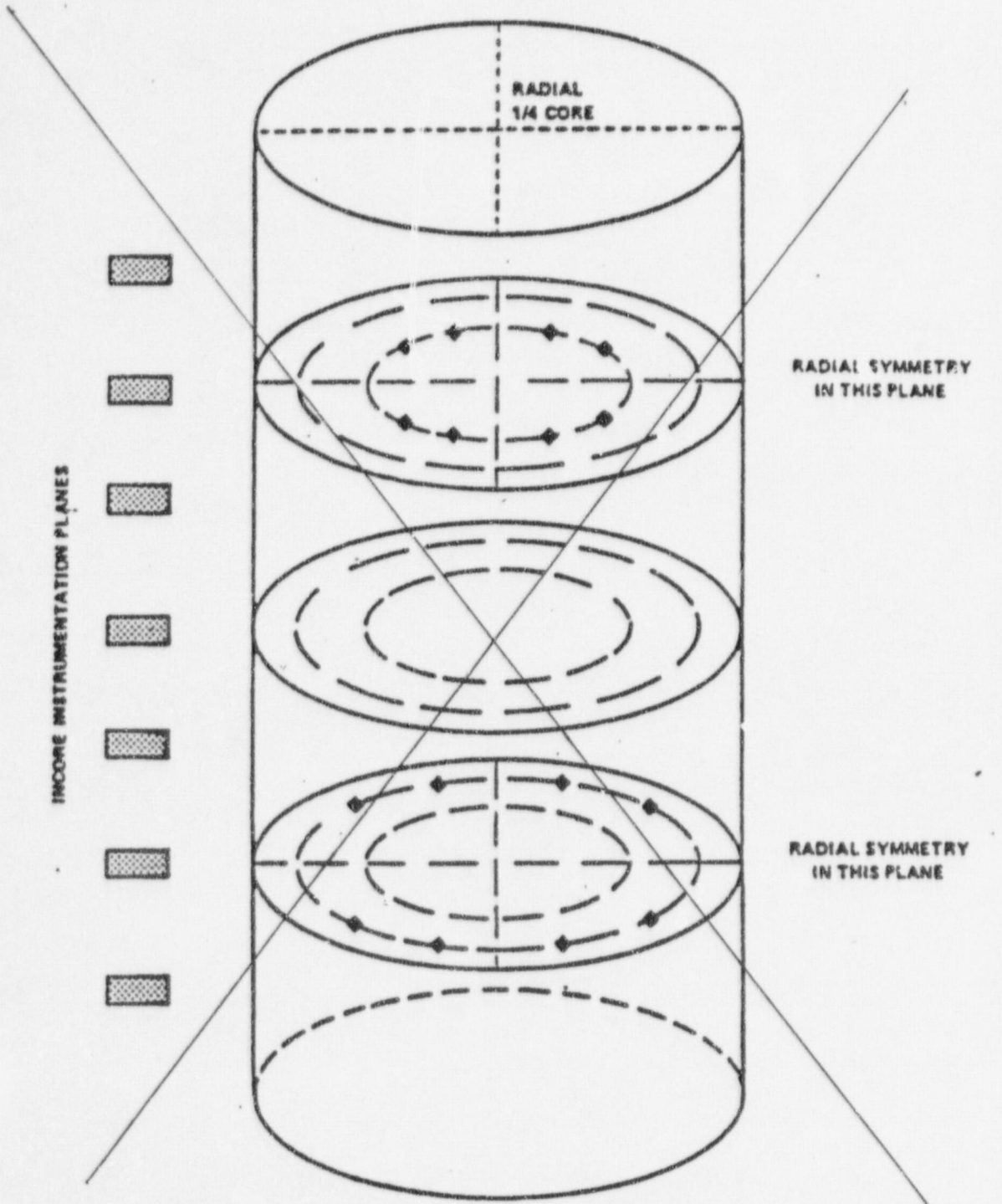


Figure 3-2 In-core Instrumentation Specification  
Acceptable Minimum QUADRANT POWER TILT Arrangement

Deleted



INSTRUMENTATION

BASES

---

3/4.3.3.9 WASTE GAS SYSTEM OXYGEN MONITOR

Deleted The waste gas system oxygen monitor is provided to monitor oxygen concentration of gaseous radwaste being admitted to the waste gas surge tank. Oxygen concentration is monitored to ensure that the concentration of potentially explosive gas mixtures contained in the waste gas treatment system is maintained below the flammability limits of hydrogen with oxygen.

# INFORMATION ONLY

## REACTOR COOLANT SYSTEM

### BASES

---

#### 3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

##### 3/4.4.6.1 LEAKAGE DETECTION SYSTEMS

The RCS leakage detection systems required by this specification are provided to detect and monitor leakage from the Reactor Coolant Pressure Boundary. These detection systems are consistent with the recommendation of Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems," May 1973.

##### 3/4.4.6.2 OPERATIONAL LEAKAGE

PRESSURE BOUNDARY LEAKAGE of any magnitude is unacceptable since it may be indicative of an impending gross failure of the pressure boundary. Therefore, the presence of any PRESSURE BOUNDARY LEAKAGE requires the unit to be promptly placed in COLD SHUTDOWN.

Industry experience has shown that, while a limited amount of leakage is expected from the RCS, the UNIDENTIFIED LEAKAGE portion of this can be reduced to a threshold value of less than 1 GPM. This threshold value is sufficiently low to ensure early detection of additional leakage.

The steam generator tube leakage limit of 150 GPD through any one steam generator ensures that the dosage contribution from tube leakage will be limited to a small fraction of 10 CFR Part 100 limits in the event of either a steam generator tube rupture or steam line break. A 1 GPM total primary to secondary leakage limit is used in the analysis of these accidents.

The 10 GPM IDENTIFIED LEAKAGE limitation provides allowance for a limited amount of leakage from known sources whose presence will not interfere with the detection of UNIDENTIFIED LEAKAGE by the leakage detection systems.

The CONTROLLED LEAKAGE limit of 10 GPM restricts operation with a total RCS leakage from all RC pump seals in excess of 10 GPM.

The surveillance requirements for RCS Pressure Isolation Valves provide added assurance of valve integrity thereby reducing the probability of gross valve failure and consequent intersystem LOCA. Leakage from the RCS Pressure Isolation Valves is IDENTIFIED LEAKAGE and will be considered as a portion of the allowed limit.

REACTOR COOLANT SYSTEMBASES

---

3/4.4.7 CHEMISTRYDeleted

~~The limitations on Reactor Coolant System chemistry ensure that corrosion of the Reactor Coolant System is minimized and reduce the potential for Reactor Coolant System leakage or failure due to stress corrosion. Maintaining the chemistry within the Steady State Limits shown on Table 3.4-1 provides adequate corrosion protection to ensure the structural integrity of the Reactor Coolant System over the life of the plant. The associated effects of exceeding the oxygen, chloride and fluoride limits are time and temperature dependent. Corrosion studies show that operation may be continued with contaminant concentration levels in excess of the Steady State Limits, up to the Transient Limits, for the specified limited time intervals without having a significant effect on the structural integrity of the Reactor Coolant System. The time interval permitting continued operation within the restrictions of the Transient Limits provides time for taking corrective actions to restore the contaminant concentrations to within the Steady State Limits.~~

~~The surveillance requirements provide adequate assurance that concentrations in excess of the limits will be detected in sufficient time to take corrective action.~~

3/4.4.8 SPECIFIC ACTIVITY

The limitations on the specific activity of the primary coolant ensure that the resulting 2 hour doses at the site boundary will not exceed an appropriately small fraction of the Part 100 limit following a steam generator tube rupture accident in conjunction with an assumed steady state primary-to-secondary steam generator leakage rate of 1.0 GPM. The values for the limits on specific activity represent interim limits based upon a parametric evaluation by the NRC of typical site locations. These values are conservative in the specific site parameters of the site, such as site boundary location and meteorological conditions, were not considered in this evaluation. The NRC is finalizing site specific criteria which will be used as the basis for the reevaluation of the specific activity limits of this site. This reevaluation may result in higher limits.

RADIOACTIVE EFFLUENTSBASES

---

3/4.11.1 LIQUID HOLDUP TANKS

Restricting the quantity of radioactive material contained in the specified tanks provides assurance that in the event of an uncontrolled release of the tanks' contents, the resulting concentrations would be less than the limits of 10 CFR Part 20, Appendix B, Table II, Column 2, at the nearest potable water supply and the nearest surface water supply in an unrestricted area.

3/4.11.2 EXPLOSIVE GAS MIXTURE

This specification is provided to ensure that the concentration of potentially explosive gas mixtures contained in the waste gas ~~treatment~~ system is maintained below the flammability limits of hydrogen with oxygen. Maintaining the concentration of hydrogen or oxygen below their flammability limits provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10 CFR Part 50.

The concentrations of oxygen in the waste gas system is determined to be within acceptable limits by monitoring the waste gases in the waste gas system as required by the USAR Technical Requirements Manual.

Docket Number 50-346  
License Number NPF-3  
Serial Number 2608  
Enclosure 2

COMMITMENT LIST

THE FOLLOWING LIST IDENTIFIES THOSE ACTIONS COMMITTED TO BY THE DAVIS-BESSE NUCLEAR POWER STATION (DBNPS) IN THIS DOCUMENT. ANY OTHER ACTIONS DISCUSSED IN THIS SUBMITTAL REPRESENT INTENDED OR PLANNED ACTIONS BY THE DBNPS. THEY ARE DESCRIBED ONLY FOR INFORMATION AND ARE NOT REGULATORY COMMITMENTS. PLEASE NOTIFY THE MANAGER - REGULATORY AFFAIRS (419-321-8466) AT THE DBNPS OF ANY QUESTIONS REGARDING THIS DOCUMENT OR ANY ASSOCIATED REGULATORY COMMITMENTS.

COMMITMENT

DUE DATE

- |  |  |
|--|--|
| 1. Relocate TS 3/4.3.3.2, 3/4.3.3.9 and 3/4.4.7 to the DBNPS Updated Safety Analysis Report Technical Requirements Manual. | These changes are to be implemented within 120 days after NRC approval of the License Amendment, and no later than the removal of TS 3/4.3.3.2, 3/4.3.3.9 and 3/4.4.7 from the TS. |
|--|--|