DAEC-1
TECHNICAL SPECIFICATIONS
TABLE OF CONTENTS

1.0 DEFINITIONS

The succeeding frequently used terms are explicitly defined so that a uniform interpretation of the specifications may be achieved.

1. SAFETY LIMIT

The safety limits are limits below which the reasonable maintenance of the cladding and primary systems are assured. Exceeding such a limit requires unit shutdown and review by the Nuclear Regulatory Commission before resumption of unit operation. Operation beyond such a limit may not in itself result in serious consequences but it indicates an operational deficiency subject to regulatory review.

2. LIMITING SAFETY SYSTEM SETTING (LSSS)

The limiting safety system settings are settings on instrumentation which initiate the automatic protective action at a level such that the safety limits will not be exceeded. These settings take into consideration the instrumentation tolerances and the instruments are required to be periodically calibrated as specified in these Technical Specifications. The limiting safety system setting plus the tolerance of the instrument as given in the system design control document gives the limiting trip point for operation. This additional margin has been established so that with proper operation of the instrumentation the safety limits will never be exceeded. The inequality sign which may be given merely signifies the preferred direction of operational trip setting.

3. LIMITING CONDITIONS FOR OPERATION (LCO)

The limiting conditions specify the minimum acceptable levels of system performance necessary to assure safe startup and operation of the facility. When these conditions are met, the plant can be operated safely and abnormal situations can be safely controlled.

When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and devices(s) are OPERABLE, or likewise satisfy the requirements of this specification.

4. ACTION

ACTION shall be that part of a Specification which prescribes remedial measures required under designated conditions.

22. Instrumentation - Continued

h. Protective Function - A system protective action which results from the protective action of the channels monitoring a particular plant condition.

i. Simulated Automatic Actuation - Simulated automatic actuation means applying a simulated signal to the sensor to actuate the circuit in question.

j. Logic - A logic is an arrangement of relays, contacts, and other components that produces a decision output.

1) Initiating - A logic that receives signals from channels and produces decision outputs to the actuation logic.

2) Actuation - A logic that receives signals (either from initiating logic or channels) and produces decision outputs to accomplish a protective action.

k. Primary Source Signal - The first signal, which by plant design, should initiate a reactor scram for the subject abnormal occurrence (see Updated FSAR Chapters 7 and 15).

l. Source Check - A Source Check is the assessment of channel response when the channel sensor is exposed to a source of radiation.

23. FUNCTIONAL TEST

A functional test is the manual operation or initiation of a system, subsystem, or component to verify that it functions within design tolerances (e.g., the manual start of a core spray pump to verify that it runs and that it pumps the required volume of water).

24. SHUTDOWN

The reactor is in a shutdown condition when the reactor mode switch is in the shutdown mode position and no core alterations are being performed.

25. ENGINEERED SAFEGUARD

An engineered safeguard is a safety system, the actions of which are essential to a safety action required in response to accidents.

26. DELETED

27. FREQUENCY NOTATION

The FREQUENCY NOTATION specified for the performance of Surveillance Requirements shall correspond to the intervals defined below. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications.

NOTATION	FREQUENCY
S (Shiftly)	At least once per 12 hours.
D (Daily)	At least once per 24 hours.
W (Weekly)	At least once per 7 days.
M (Monthly)	At least once per 31 days.
Q (Quarterly or every 3 months)	At least once per 92 days.
SA (Semi-annually or every 6 months)	At least once per 184 days.
A (Yearly or Annually)	At least once per 366 days.
R (Refuel)	At least once per 18 months.
S/U (Startup)	Prior to each reactor startup.
P	Prior to each release.
NA	Not applicable.

28. FIRE SUPPRESSION WATER SYSTEMS

A fire suppression water system shall consist of a water source, pumps, and distribution piping with associated sectionalizing control or isolation valves. Such valves include yard hydrant curb valves, the first valve ahead of the water flow alarm device on each sprinkler, hose standpipe or deluge system riser.

29. REACTOR TRIP SYSTEM RESPONSE TIME

Reactor trip system response time is the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until deenergization of the scram pilot valve solenoids.

30. REPORTABLE EVENT

A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

31. OFFSITE DOSE ASSESSMENT MANUAL

The Offsite Dose Assessment Manual (ODAM) contains the methodology and parameters to be used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm/trip setpoints, and in the conduct of the Radiological Environmental Monitoring Program. The ODAM shall also contain (1) the Radioactive Effluent Controls and Radiological Environmental Monitoring Program required by Section 6.9.4 and (2) descriptions of the information that should be included in the Semiannual Radioactive Material Release Report and Annual Radiological Environmental Report required by the Technical Specification 6.11.1.

32. Deleted

33. PURGE - PURGING

PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.0 Applicability	4.0 Applicability
A. Compliance with the LCO's contained in the succeeding Specifications is required during the conditions specified therein; except that upon failure to meet the LCO's, the associated ACTION requirements shall be met.	A. Surveillance Requirements shall be met during the conditions specified for individual LCO's unless otherwise stated.
B. Noncompliance with a Specification shall exist when the requirements of the LCO and associated ACTION requirements are not met within the specified time intervals. If the LCO is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.	B. Each Surveillance Requirement shall be performed within the specified time interval with a maximum allowable extension not to exceed 25% of the surveillance interval.
C. When an LCO is not met and associated ACTION requirements are not met or an associated ACTION is not provided, within one hour action shall be initiated to place the unit in a condition in which the Specification does not apply by placing it, as applicable, in: 1. at least STARTUP within the next 6 hours, 2. at least HOT SHUTDOWN within the following 6 hours, and 3. at least COLD SHUTDOWN within the subsequent 24 hours. Where corrective measures are completed that permit operation in accordance with the LCO or ACTIONS, completion of the actions required by Specification 3.0.C is not required. Exceptions to this specification are stated in the individual specifications. This specification is not applicable in COLD SHUTDOWN or the REFUEL mode.	C. Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.B, shall constitute noncompliance with the OPERABILITY requirements for an LCO. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours. Surveillance Requirements do not have to be performed on inoperable equipment.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
D. When an LCO is not met, entry into a specified condition shall not be made except when the associated ACTIONS to be entered permit continued operation in the specified condition for an unlimited period of time. This provision shall not prevent passage through or to conditions as required to comply with ACTION requirements. Exceptions to this specification are stated in the individual specifications.	D. Entry into a condition shall not be made unless the Surveillance Requirement(s) associated with the LCO have been performed within the allowed surveillance interval, defined by Specification 4.0.B, or as otherwise specified. This provision shall not prevent passage through or to conditions as required to comply with ACTION requirements.

3.0 and 4.0 BASES: APPLICABILITY

Specifications 3.0.A through 3.0.D establish the general requirements applicable to LCO's. These requirements are based on the requirements for LCO's stated in the Code of Federal Regulations, 10 CFR 50.36(c)(2):

> "Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specification until the condition can be met."

Specification 3.0.A establishes the applicability within each individual specification as the requirement for when conformance to the LCO is required for safe operation of the facility. The ACTION requirements establish those remedial measures that must be taken within specified time limits when the requirements of an LCO are not met. It is not intended that the shutdown ACTION requirements be used as an operational convenience which permits (routine) voluntary removal of a system(s) or component(s) from service in lieu of other alternatives that would not result in redundant systems or components being inoperable.

There are two basic types of ACTION requirements. The first specifies the remedial measures that permit continued operation of the facility which is not further restricted by the time limits of the ACTION requirements. In this case, conformance to the ACTION requirements provides an acceptable level of safety for unlimited continued operation as long as the ACTION requirements continue to be met. The second type of ACTION requirement specifies a time limit in which conformance to the conditions of the LCO must be met. This time limit is the allowable outage time to restore an inoperable system or component to OPERABLE status or for restoring parameters within specified limits. If these actions are not completed within the allowable outage time limits, a shutdown is required to place the facility in an operational condition or other specified condition in which the specification no longer applies.

The specified time limits of the ACTION requirements are applicable from the point in time it is identified that an LCO is not met. The time limits of the ACTION requirements are also applicable when a system or component is removed from service for surveillance testing or investigation of operational problems. Individual specifications may include a specified time limit for the completion of a Surveillance Requirement when equipment is removed from service. In this case, the allowable outage time limits of the ACTION requirements are applicable when this limit expires if the surveillance has not been completed. When a shutdown is required to comply with ACTION requirements, the plant may have entered an operational condition in which a new specification becomes applicable. In this case, the time limits of the ACTION requirements would apply from the point in time that the new specification becomes applicable if the requirements of the LCO are not met.

Specification 3.0.B establishes that noncompliance with a specification exists when the requirements of the LCO are not met and the associated ACTION requirements have not been implemented within the specified time interval. The purpose of this specification is to clarify that (1) implementation of the ACTION requirements within the specified time interval constitutes compliance with a specification and (2) completion of the remedial measures of the ACTION requirements is not required when compliance with an LCO is restored within the time interval specified in the associated ACTION requirements.

Specification 3.0.C establishes the shutdown ACTION requirements that must be implemented when an LCO is not met and the condition is not specifically addressed by the associated ACTION requirements. The purpose of this specification is to delineate the time limits for placing the unit in a safe shutdown condition when plant operation cannot be maintained within the limits for safe operation defined by the LCO and its ACTION requirements. It is not

intended to be used as an operational convenience which permits (routine) voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable. One hour is allowed to prepare for an orderly shutdown before initiating a change in plant operation. This time permits the operator to coordinate the reduction in electrical generation with the load dispatcher to ensure the stability and availability of the electrical grid. The time limits specified to reach lower conditions of operation permit the shutdown to proceed in a controlled and orderly manner that is well within the specified maximum cooldown rate and within the cooldown capabilities of the facility assuming only the minimum required equipment is OPERABLE. This reduces thermal stresses on components of the Primary Coolant System and the potential for a plant upset that could challenge safety systems under conditions for which this specification applies.

If remedial measures permitting limited continued operation of the facility under the provisions of the ACTION requirements are completed, the shutdown may be terminated. The time limits of the ACTION requirements are applicable from the point in time there was a failure to meet an LCO. Therefore, the shutdown may be terminated if the ACTION requirements have been met or the time limits of the ACTION requirements have not expired, thus providing an allowance for the completion of the required actions.

The time limits of Specification 3.0.C allow 37 hours for the plant to be in COLD SHUTDOWN when a shutdown is required during REACTOR POWER OPERATION. If the plant is in a lower condition of operation when a shutdown is required, the time limit for reaching the next lower condition of operation applies. However, if a lower condition of operation is reached in less time than allowed, the total allowable time to reach COLD SHUTDOWN, or other operational condition, is not reduced. For example, if STARTUP is reached in 2 hours, the time allowed to reach HOT SHUTDOWN is the next 11 hours because the total time to reach HOT SHUTDOWN is not reduced from the allowable limit of 13 hours. Therefore, if remedial measures are completed that would permit a return to REACTOR POWER OPERATION, a penalty is not incurred by having to reach a lower condition of operation in less than the total time allowed.

The same principle applies with regard to the allowable outage time limits of the ACTION requirements, if compliance with the ACTION requirements for one specification results in entry into an operational condition or condition of operation for another specification in which the requirements of the LCO are not met. If the new specification becomes applicable in less time than specified, the difference may be added to the allowable outage time limits of the second specification. However, the allowable outage time limits of ACTION requirements for a higher condition of operation may not be used to extend the allowable outage time that is applicable when an LCO is not met in a lower condition of operation.

The shutdown requirements of Specification 3.0.C do not apply in COLD SHUTDOWN or the REFUEL mode because the ACTION requirements of individual specifications define the remedial measures to be taken.

Specification 3.0.D establishes limitations on a change in operational conditions when an LCO is not met. It precludes placing the facility in a higher condition of operation when the requirements for an LCO are not met and continued noncompliance to these conditions would result in a shutdown to comply with the ACTION requirements if a change in conditions were permitted. The purpose of this specification is to ensure that facility operation is not initiated or that higher conditions of operation are not entered when corrective action is being taken to obtain compliance with a specification by restoring equipment to OPERABLE status or parameters to specified limits. Compliance with ACTION requirements that permit continued operation of the facility for an unlimited period of time provides an acceptable level of safety for continued operation without regard to the status of the plant before or after a change in operational conditions. Therefore, in this case, entry into a condition may be made in accordance with the provisions of the ACTION requirements. The provisions of this specification should not,

however, be interpreted as endorsing the failure to exercise good practice in restoring systems or components to OPERABLE status before plant startup.

When a shutdown is required to comply with ACTION requirements, the provisions of Specification 3.0.D do not apply because they would delay placing the facility in a lower condition of operation.

Specifications 4.0.A through 4.0.D establish the general requirements applicable to Surveillance Requirements. These requirements are based on the Surveillance Requirements stated in the Code of Federal Regulations, 10 CFR 50.36(c)(3):

> "Surveillance requirements are requirements relating to test, calibration, or inspection to ensure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions of operation will be met."

Specification 4.0.A establishes the requirement that surveillances must be performed during the conditions for which the requirements of the LCO apply unless otherwise stated. The purpose of this specification is to ensure that surveillances are performed to verify the operational status of systems and components and that parameters are within specified limits to ensure safe operation of the facility when the plant is in a condition for which the individual LCO is applicable. Surveillance Requirements do not have to be performed when the facility is in a condition for which the requirements of the associated LCO do not apply unless otherwise specified.

Specification 4.0.B establishes the limit for which the specified time interval for Surveillance Requirements may be extended. It permits an allowable extension of the normal surveillance interval to facilitate surveillance scheduling and consideration of plant operating conditions that may not be suitable for conducting the surveillance; e.g., transient conditions or other ongoing surveillance or maintenance activities. It also provides flexibility to accommodate the length of a fuel cycle for surveillances that are performed at each refueling outage and are specified with an 18-month surveillance interval. It is not intended that this provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed during refueling outages. The limitation of Specification 4.0.B is based on engineering judgement and the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the Surveillance Requirements. This provision is sufficient to ensure that the reliability ensured through surveillance activities is not significantly degraded beyond that obtained from the specified surveillance interval.

Specification 4.0.C establishes the failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by the provisions of Specification 4.0.B, as a condition that constitutes a failure to meet the OPERABILITY requirements for an LCO. Under the provisions of this specification, systems and components are assumed to be OPERABLE when Surveillance Requirements have been satisfactorily performed within the specified time interval. However, nothing in this provision is to be construed as implying that systems or components are OPERABLE when they are found or known to be inoperable although still meeting the Surveillance Requirements. This specification also clarifies that the ACTION requirements are applicable when Surveillance Requirements have not been completed within the allowed surveillance interval and that the time limits of the ACTION requirements apply from the point in time it is identified that a surveillance has not been performed and not at the time that the allowed surveillance interval was exceeded. Completion of the Surveillance Requirement within the allowable outage time limits of the ACTION requirements restores compliance with the requirements of Specification 4.0.C. However, this does not negate the fact that the failure to have performed the surveillance within the allowed surveillance interval, defined by the provisions of Specification

4.0.B, was a violation of the OPERABILITY requirements of an LCO that is subject to enforcement action. Further, the failure to perform a surveillance within the provisions of Specification 4.0.B constitutes a failure to meet the OPERABILITY requirements for an LCO and any reports required by 10 CFR 50.73 shall be determined based on the length of time the surveillance interval has been exceeded, and the corresponding LCO ACTION time requirements.

If the allowable outage time limits of the ACTION requirements are less than 24 hours or a shutdown is required to comply with ACTION requirements, e.g., Specification 3.0.C, a 24-hour allowance is provided to permit a delay in implementing the ACTION requirements. This provides an adequate time limit to complete Surveillance Requirements that have not been performed. The purpose of this allowance is to permit the completion of a surveillance before a shutdown would be required to comply with ACTION requirements or before other remedial measures would be required that may preclude the completion of a surveillance. The basis for this allowance includes consideration for plant conditions, adequate planning, availability of personnel, the time required to perform the surveillance, and the safety significance of the delay in completing the required surveillance. This provision also provides a time limit for the completion of Surveillance Requirements that become applicable as a consequence of condition changes imposed by ACTION requirements and for completing Surveillance Requirements that are applicable when an exception to the requirements of Specification 4.0.D is allowed. If a surveillance is not completed within the 24-hour allowance, the time limits of the ACTION requirements are applicable at that time. When a surveillance is performed within the 24-hour allowance and the Surveillance Requirements are not met, the time limits of the ACTION requirements are applicable at the time that the surveillance is terminated.

Surveillance Requirements do not have to be performed on inoperable equipment because the ACTION requirements define the remedial measures that apply. However, the Surveillance Requirements have to be met to demonstrate that inoperable equipment has been restored to OPERABLE status.

Specification 4.0.D establishes the requirement that all applicable surveillances must be met before entry into a specified condition. The purpose of this specification is to ensure that system and component OPERABILITY requirements or parameter limits are met before entry into a condition for which these systems and components ensure safe operation of the facility. This provision applies to changes in conditions associated with plant shutdown as well as startup.

Under the provisions of this specification, the applicable Surveillance Requirements must be performed within the specified surveillance interval, defined by the provisions of Specification 4.0.B, to assume that the LCO's are met during initial plant startup or following a plant outage.

When a shutdown is required to comply with ACTION requirements, the provisions of Specification 4.0.D do not apply because this would delay placing the facility in a lower condition of operation.

NOTES FOR TABLE 3.1-1

1. There shall be two operable or tripped trip systems for each function. If the minimum number of operable sensor or instrument channels for a trip system cannot be met, the affected trip system shall be placed in the safe (tripped) condition, or the appropriate actions listed below shall be taken. If the affected trip system is placed in the safe (tripped) condition, the provisions of Specification 3.0.D are not applicable.

   a. Initiate insertion of operable rods and complete insertion of all operable rods within four hours.

   b. Reduce power level to IRM range and place mode switch in the startup position within 8 hours.

   c. Reduce turbine load and close main steam line isolation valves within 8 hours.

   d. Reduce power to less than 30% of rated.

2. Permissible to bypass, in refuel and shutdown positions of the reactor mode switch.

RTS-249

TABLE 4.1-1

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT FUNCTIONAL TESTS
MINIMUM FUNCTIONAL TEST FREQUENCIES FOR SAFETY INSTRUMENT AND CONTROL CIRCUITS

	Group (2)	Functional Test	Minimum Frequency (3)
Mode Switch in Shutdown	A	Place Mode Switch in Shutdown	Once/operating cycle
Manual Scram	A	Trip Channel and Alarm	Every 3 months
RPS Channel Test Switch	A	Trip Channel and Alarm	Once/operating cycle or after channel maintenance
IRM High Flux	C	Trip Channel and Alarm (4)	Once per week during refueling or startup and before each startup unless a satisfactory test has been accomplished during the preceding 7 days. (6)
Inoperative	C	Trip Channel and Alarm (4)	Once per week during refueling or startup and before each startup unless a satisfactory test has been accomplished during the preceding 7 days. (6)
APRM			
High Flux in Run	B	Trip Output Relays (4)	Once/week (While in Run Mode)
Inoperative	B	Trip Output Relays (4)	Once/Week
Downscale *	B	Trip Output Relays (4)	Once/month (1)
Flow Bias	B	Trip Output Relays (4)	Once/month (1)
High Flux in Startup or Refuel	C	Trip Output Relays	Once per week during refueling or startup and before each startup unless a satisfactory test has been accomplished during the preceding 7 days (6)
High Reactor Reactor Pressure	A	Trip Channel Alarm	Every 1 month (1)

*With companion IRM Hi-Hi or Inoperable.

3.1-8

12/92

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
D. Safety and Relief Valves	D. Safety and Relief Valves
1. When in RUN, STARTUP, or HOT SHUTDOWN MODE, both safety valves and the safety modes of all relief valves* shall be OPERABLE, except as specified in Specification 3.6.D.2.	1. Once per OPERATING CYCLE, at least one safety valve and 3 relief valves shall be removed, set pressure tested and reinstalled or replaced with spares that have been previously set pressure tested. The safety and relief valves shall be rotated, at least once per 40 months, such that both safety and 6 relief valves are removed, set pressure tested and reinstalled or replaced with spares. Any spare that is installed must have been set pressure tested within the previous 40 months. The setpoint of the safety valves shall be as specified in Specification 2.2.
2.a With the safety valve function of one relief valve inoperable, restore the inoperable safety valve function to OPERABLE status within thirty days.	a. At least one of the relief valves shall be disassembled and inspected once per OPERATING CYCLE.
b. With the safety valve function of two relief valves inoperable, restore the inoperable safety valve function to OPERABLE status within seven days.	
3. If Specification 3.6.D.1 or 3.6.D.2 is not met, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.	3.a With the reactor pressure $\geq$ 100 psig and turbine bypass flow to the main condenser, each relief valve shall be manually opened and verified open by turbine bypass valve position decrease, pressure switches and thermocouple readings downstream of the relief valve to indicate steam flow from the valve once per OPERATING CYCLE. The provisions of Specification 4.0.D are not applicable provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the test.
	b. If OPERABILITY is not successfully demonstrated within the 12-hour period, reduce reactor steam dome pressure to less than 100 psig within the following 72 hours.
	4. The relief valve setpoints for the Low-Low Set function shall be as specified in Section 2.2.1.c. Instrumentation and system logic shall be functionally tested, calibrated, and checked as specified in Table 4.2-B.

* SRVs which perform an ADS function must also satisfy the OPERABILITY requirements of Specification 3.5.F, Core and Containment Cooling Systems.

5. The water level in the reactor vessel will be perturbed and the corresponding level indicator changes will be monitored. This perturbation test will be performed every month after completion of the functional test program.

6. During plant shutdowns the provisions of Specification 4.0.D are not applicable provided the surveillances are performed within 12 hours after entering HOT STANDBY CONDITION or actions are being taken to proceed to HOT SHUTDOWN.

3.1 BASES

The reactor protection system automatically initiates a reactor scram to:

1. Preserve the integrity of the fuel cladding.

2. Preserve the integrity of the reactor coolant system.

3. Minimize the energy which must be absorbed following a loss-of-coolant accident, and prevent inadvertent criticality.

This specification provides the limiting conditions for operation necessary to preserve the ability of the system to perform its intended function even during periods when instrument channels may be out of service because of maintenance. When necessary, one channel may be made inoperable for brief intervals to conduct required functional tests and calibrations.

The exception to Specification 3.0.D denoted in Table 3.1-1 clarifies that mode changes may be made when instrument channel(s) for a trip system are in a tripped (safe) condition.

The reactor protection system is of the dual channel type (Reference Subsection 7.2 of the Updated FSAR). The system is made up of two independent trip systems, each having three subchannels of tripping devices. One of the three subchannels has inputs

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
c) At least one pre-treatment steam air ejector offgas system radiation monitor shall be operable during reactor power operation. The monitors shall be set to initiate an alarm if the monitor exceeds a trip setting equivalent to 1.0 Ci/sec of noble gases after 30 minutes delay in the offgas holdup line. In the event the noble gas flow in the air ejector offgas exceeds the equivalent of 1.0 Ci/sec after 30 minutes delay in the offgas holdup line, restore the rate to less than this limit within 72 hours or be in at least hot standby within the next 12 hours.	
d) In the event no pre-treatment monitor is operable, gases from the steam air ejector offgas system may be released for up to 30 days provided (1) the charcoal bed of the offgas system is not bypassed, (2) Grab samples are collected and analyzed weekly, and (3) the offgas stack noble gas activity monitor is operable, or at least 1 post-treatment monitor is operable. Otherwise, be in at least HOT STANDBY within the following 24 hours.	
e) The provisions of Specification 3.0.D are not applicable.	
2. Reactor Building Isolation and Standby Gas Treatment System The limiting conditions for operation are given in Specification 3.7.B.	2. Reactor Building Isolation and Standby Gas Treatment System Instrumentation shall be functionally tested, calibrated and checked as indicated in Table 4.2-D. System logic shall be functionally tested as indicated in Table 4.2-D.

NOTES FOR TABLE 3.2-A

1. Whenever Primary Containment integrity is required by Subsection 3.7, there shall be two operable or tripped systems for each function.

2. If the first column cannot be met for one of the trip systems, that trip system shall be tripped or the appropriate action listed below shall be taken. If the affected trip system is placed in the safe (tripped) condition, the provisions of Specification 3.0.D are not applicable.

   ACTION A - Be in at least HOT SHUTDOWN within 6 hours and in COLD SHUTDOWN within the next 30 hours.

   ACTION B - Be in at least STARTUP with the associated isolation valves closed within 6 hours or be in at least HOT SHUTDOWN within 6 hours and in COLD SHUTDOWN within the next 30 hours.

   ACTION C - Close the affected system isolation valves within one hour and declare the affected system inoperable.

   ACTION D - Be in at least STARTUP within 6 hours.

   ACTION E - Isolate secondary containment and start the standby gas treatment system.

3. Zero referenced to top of active fuel.*

* Top of the active fuel zone is defined to be 344.5 inches above vessel zero (see Bases 3.2).

NOTES FOR TABLE 3.2-B

1. Whenever any CSCS subsystem is required by Subsection 3.5 to be operable, there shall be two operable trip systems. If the first column cannot be met for one of the trip systems, that trip system shall be placed in the tripped condition or the reactor shall be placed in the Cold Shutdown Condition within 24 hours. If the affected trip system is placed in the safe (tripped) condition, the provisions of Specification 3.0.D are not applicable.

2. Close isolation valves in RCIC subsystem.

3. Close isolation valves in HPCI subsystem.

4. Zero referenced to top of active fuel.*

5. HPCI has only one trip system for these sensors.

6. There is no trip function associated with these relays. The relays provide signals to annunciators only.

7. Four undervoltage relays with integral timers per 4KV bus. The relay output contacts are connected to form a one-out-of-two-twice coincident logic matrix. With one relay inoperable, operation may proceed provided that the inoperable relay is placed in the tripped condition within one hour.

---

*Top of active fuel zone is defined to be 344.5 inches above vessel zero (see Bases 3.2).

TABLE 3.2-D
RADIATION MONITORING SYSTEMS THAT INITIATE AND/OR ISOLATE SYSTEMS

Minimum No. of Operable Instrument Channels	Trip Function	Trip Level Setting	Number of Instrument Channels Provided by Design	Valve Groups Operated by Signal	Action (1) (4)
1	Refuel Area Exhaust Monitor	Upscale, < 9 mr/hr	2 Inst. Channels	3	A or B
1	Reactor Building Area Exhaust Monitors	Upscale, < 11 mr/hr	2 Inst. Channels	3	B
1	Offgas Radiation Monitors	Note 2	2 Inst.	Note 2	C
2	Main Steam Line Radiation Monitor	<3x Normal Full Power Background	4 Inst. Channels	Note 3	D

NOTES FOR TABLE 3.2-D

1. Action

   A. Cease operation of the refueling equipment.

   B. Isolate secondary containment and start the standby gas treatment system.

   C. Refer to Subsection 3.2.D.1.

   D. Refer to Specification 3.7.F.

2. For trip setting and valves isolated, see Specification 3.2.D.1.a.

3. Trips Mechanical Vacuum Pump which results in a subsequent isolation of the Mechanical Vacuum Pump suction valves.

4. The provisions of Specification 3.0.D are not applicable.

NOTES FOR TABLE 3.2-F

1. From and after the date that one of these parameters is reduced to one indication, when required, continued operation is permissible during the succeeding thirty days unless such instrumentation is sooner made operable. The provisions of Specification 3.0.D are not applicable.

2. From and after the date that one of these parameters is not indicated in the control room, continued operation is permissible during the succeeding seven days unless such instrumentation is sooner made operable.

3. If the requirements of notes (1) and (2) cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a Cold Condition within 24 hours.

4. These surveillance instruments are considered redundant to each other.

timer is set to annunciate before the values specified in Specification 3.6.C are exceeded. An air sampling system is also provided, as a backup to the sump system, to detect leakage inside the primary containment.

For each parameter monitored, as listed in Table 3.2.F, there are two (2) channels of instrumentation. By comparing readings between the two (2) channels, a near continuous surveillance of instrument performance is available. Any deviation in readings will initiate an early recalibration, thereby maintaining the quality of the instrument readings.

The exception to Specification 3.0.D denoted in Tables 3.2-A, 3.2-B, 3.2-D and 3.2-F clarifies that mode changes may be made when instrument channel(s) for a trip system are in a tripped (safe) condition.

On July 26, 1984 the NRC published their final rule on Anticipated Transients Without Scram (ATWS), (10 CFR §50.62). This rule requires all BWR's to make certain plant modifications to mitigate the consequences of the unlikely occurrence of a failure to scram during an anticipated operational transient. The bases for these modifications are described in NEDE-31096-P-A, "Anticipated Transients Without Scram; Response to NRC ATWS Rule, 10 CFR 50.62," December, 1985. The Standby Liquid Control System (SLCS) was modified for two-pump operation to provide the minimum required flowrate and boron concentration required by the ATWS rule (see Section 3.4 Bases). The existing ATWS Recirculation Pump Trip (RPT) was modified from a one-out-of-two-once logic to trip each recirc. pump to a two-out-of-two-once logic to trip both recirc. pumps, ("Monticello" design). This logic will also initiate the Alternate Rod Insertion (ARI) system, which actuates solenoid valves that bleed the air off the scram air header, causing the control rods to insert. The instrument setpoints are chosen such that the normal reactor protection system (RPS) scram setpoints for reactor high pressure or low water level will be exceeded before the ATWS RPT/ARI setpoints are reached. Because ATWS is considered a very low probability event and is outside the normal design basis for the DAEC, the surveillance frequencies and LCO requirements are less stringent than for safety-related instrumentation.

The End-of-Cycle (EOC) recirculation pump trip was added to the plant to improve the operating margin to fuel thermal limits, in particular Minimum

Critical Power Ratio (MCPR). The EOC-RPT trips the recirc. pumps to lessen the severity of the power increases caused by either a closure of turbine stop valves or fast closure of the turbine control valves with reactor power greater than 30% and a simultaneous failure of the turbine bypass valves to open. The operating limit MCPR of section 3.12.C is calculated assuming an operable EOC-RPT system. If the requirements of Table 3.2-G are not met, then the reactor power level is reduced to a level (85% of rated) which will ensure that the full-power MCPR limits of section 3.12-C will not be violated if such a transient were to occur.

Trip function settings are included for Instrument AC and Uninterruptible AC and battery buses for surveillance of undervoltage relays. The undervoltage relays are required to sense a reduction in the power source voltage so that the subject instruments can be transferred to an alternate power source.

Surveillance tests other than a monthly functional check of the bus power monitors for the RHR, Core Spray, ADS, and HPCI and RCIC trip systems are not required since they serve as annunciators for complete loss of power and do not monitor reduction of voltage. The subject functional check consists of opening the appropriate circuit breakers or removing the appropriate fuses and observing the loss of power annunciator activation.

The accident monitoring instrumentation listed in Table 3.2-H were specifically added to comply with the requirements of NUREG-0737 and Generic Letter 83-36. The instrumentation listed is designed to provide plant status for accidents that exceed the design basis accidents discussed in Chapter 15 of the DAEC UFSAR.

Footnote 9 of Table 3.2-H deviates from the guidance of Generic Letter 83-36 as continued operation for 30 days (instead of 7 days as recommended in the generic letter) is allowed with one of two torus water level monitor (TWLM) channels inoperable. Continued operation is justified by the following considerations:

1) Redundancy is available in that at least one channel of the containment water level monitor (CWLM) instrumentation must be available. Since the CWLM envelopes the span measured by the TWLM, the torus water level can be monitored by the CWLM system.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
f. A control rod which is not moveable with drive or scram pressure (stuck) shall be declared inoperable and the following actions shall be taken.	f. Whenever the reactor is operating greater than 20% power:
(i) Disarm the associated control rod drive and	(i) each partially or fully withdrawn operable control rod shall be demonstrated to be moveable by exercising it one notch at least once per week.
(ii) verify compliance with Specification 3.3.A.1.	(ii) if a control rod cannot be moved with drive or scram pressure, each partially or fully withdrawn OPERABLE control rod shall be exercised one notch at least once each 24 hours, unless it has been determined that the failure is not a failed control rod drive mechanism collet housing.
(iii) Whenever the reactor is less than 20% power, verify all inoperable control rods not in compliance with BPWS are separated by 2 or more OPERABLE control rods in any direction, including the diagonal.	
(iv) within 48 hours, verify that the cause of the failure is not due to a failed control rod drive mechanism collet housing.	
(v) if the requirements of Specification 3.3.A.2.f (i)-(iv) cannot be met or more than one control rod is stuck, be in COLD SHUTDOWN within 24 hours.	
g. The provisions of Specification 3.0.D are not applicable.	
3. Control Rod Drive Housing Support	3. Control Rod Drive Housing Support
The control rod drive housing support system shall be in place whenever the reactor vessel is pressurized above atmospheric pressure with fuel in the reactor vessel.	The control rod drive housing support system shall be inspected after reassembly and the results of the inspection recorded.
B. Scram Discharge Volume	B. Scram Discharge Volume
(Not Used)	1. At least once per month, verify the SDV vent and drain valves are open.
	2. At least once per quarter verify that
	a. The SDV vent and drain valves close within 30 seconds after receipt of

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
	e. At reactor pressure of 150 +/- 10 psig demonstrate ability to deliver rated flow at a discharge pressure greater than or equal to that pressure required to accomplish vessel injection. The HPCI pump shall deliver at least 3000 gpm for a system head corresponding to a reactor pressure of 1040 to 150 psig. — Once/operating cycle
2. With HPCI inoperable, provided that both Core Spray subsystems, LPCI, ADS, and RCIC are verified to be OPERABLE, restore HPCI to OPERABLE status within 14 days, or be in at least HOT SHUTDOWN within the next 12 hours and reduce reactor steam dome pressure to less than or equal to 150 psig within the following 24 hours.	f. Verify that the suction for the HPCI system is automatically transferred from the condensate storage tank to the suppression pool on a condensate storage tank water level-low signal and on a suppression pool water level-high signal. — Once/operating Cycle
	2.a The provisions of Specification 4.0.D are not applicable provided the surveillances are performed within 12 hours after reactor steam pressure is adequate to perform these tests.
	b. If OPERABILITY is not successfully demonstrated within the 12-hour period, reduce reactor steam dome pressure to less than 150 psig within the following 72 hours.
E. Reactor Core Isolation Cooling (RCIC) Subsystem	E. Reactor Core Isolation Cooling (RCIC) Subsystem
1. The RCIC Subsystem shall be OPERABLE whenever there is irradiated fuel in the reactor vessel, the reactor pressure is greater than 150 psig, and prior to reactor startup from a COLD CONDITION except as specified in 3.5.E.2 below.	1. RCIC Subsystem testing shall be performed as follows:
	Item — Frequency
	a. Simulated Automatic Actuation Test (and restart) — Annual

| LIMITING CONDITIONS FOR OPERATION | SURVEILLANCE REQUIREMENTS

	Item	Frequency
b.	Pump Operability	Once/3 months
c.	Motor Operated Valve Operability	Once/3 months
d.	At rated reactor pressure demonstrate ability to deliver rated flow at a discharge pressure greater than or equal to that pressure required to accomplish vessel injection if vessel pressure were as high as 1040 psig.	Once/3 months
e.	At reactor pressure of 150 ± 10 psig demonstrate ability to deliver rated flow at a discharge pressure greater than or equal to that pressure required to accomplish vessel injection. The RCIC pump shall deliver at least 400 gpm for a system head corresponding to 1040 to 150 psig.	Once/operating cycle
f.	Verify that the suction for the RCIC system is automatically transferred from the condensate storage tank to the suppression pool on a condensate storage tank water level-low signal.	Once/operating cycle
2.a	The provisions of Specification 4.0.D are not applicable provided the surveillances are performed within 12 hours after reactor steam pressure is adequate to perform these tests.	
b.	If OPERABILITY is not successfully demonstrated within the 12-hour period, reduce reactor steam dome pressure to less than 150 psig within the following 72 hours.	

operability of the redundant and diversified low pressure core cooling systems and the RCIC system.

The HPCI and RCIC as well as all other Core Standby Cooling Systems must be operable when starting up from a Cold Condition. It is realized that the HPCI is not designed to operate until reactor pressure exceeds 150 psig and is automatically isolated before the reactor pressure decreases below 100 psig. It is the intent of this specification to assure that when the reactor is being started up from a Cold Condition, the HPCI is not known to be inoperable.

A time period of 12 hours is given after reaching 150 psig vessel pressure to demonstrate that HPCI and RCIC are OPERABLE. If OPERABILITY is not successfully demonstrated within the 12 hour period, a 72 hour period is given to allow any remedial measures to be taken and time for operators to safely reduce reactor pressure below 150 psig.

E. RCIC System

The RCIC is designed to provide makeup to the nuclear system as part of the planned operation for periods when the main condenser is unavailable. RCIC also serves for decay heat removal when feedwater is lost. In all other postulated accidents and transients, the ADS provides redundancy for the HPCI. Based on this, an allowable repair time of 1 month is justified, however, a maximum allowable repair time of 14 days is selected for conservatism.

F. Automatic Depressurization System (ADS)

The operability of the ADS under all conditions of depressurization of the nuclear system automatically or manually, insures an essential response to station abnormalities.

The nuclear system pressure relief system provides automatic nuclear system depressurization for small breaks in the nuclear system so that the low pressure coolant injection (LPCI) and the core spray subsystems can operate to protect the fuel barrier.

Because the Automatic Depressurization System does not provide makeup to the reactor primary vessel, no credit is taken for the steam cooling of the core caused by the system actuation to provide further conservatism to the CSCS. Performance analysis of the Automatic Depressurization System is considered only with respect to its depressurizing effect in conjunction with LPCI and Core Spray and is based on 3 valves. There are four valves in the ADS and each has a capacity of approximately 810,000 lb/hr at a set pressure of 1125 psig.

LIMITING CONDITIONS FOR OPERATION

3.14.B Liquid Holdup Tank Instrumentation

3.14.B.1 A minimum of one LLRPSF Sample Tank level indicating channel and one LLRPSF Surge Tank level indicating channel shall be OPERABLE.

Applicability: At all times.

Action:

a. With no channel operable, liquid additions to the tank may continue for up to 30 days provided that the tank level is estimated during all liquid additions to the tank.

b. If the minimum required instrumentation is not returned to OPERABLE status within 30 days, prepare and submit to the commission within 30 days, pursuant to Specification 6.11.3, a Special Report, in lieu of any other report, why the instrument was not made OPERABLE in a timely manner.

c. The provisions of Specification 3.0.C are not applicable.

SURVEILLANCE REQUIREMENTS

4.14.B Liquid Holdup Tank Instrumentation

4.14.B.1 Each liquid holdup tank level instrument shall be demonstrated OPERABLE by:

a. Daily channel check during liquid additions to the tank(s).

b. A channel calibration once per 18 months.

c. A quarterly channel functional test.

LIMITING CONDITIONS FOR OPERATION

3.14 RADIOACTIVE EFFLUENTS

3.14.A Liquid Holdup Tanks*

3.14.A.1 The quantity of radioactive material contained in the unprotected outdoor tanks shall be limited to less than or equal to 50 curies, excluding tritium and dissolved or entrained noble gases. (The liquid radwaste storage tanks in the Low-Level Radwaste Processing and Storage Facility are considered unprotected outdoor tanks.)

Applicability: At all times.

Action:

a. With the quantity of radioactive material in the tanks exceeding the above limit, immediately suspend all additions of radioactive material to the tanks, within 48 hours reduce the tank contents to within the limit, and describe the events leading to this condition in the next Semiannual Radioactive Effluent Release Report.

b. The provisions of Specification 3.0.C are not applicable.

* Tanks included in this specification are those outdoor tanks that are not surrounded by liners, dikes, or walls capable of holding the tanks' contents and that do not have tank overflows and surrounding area drains connected to the liquid radwaste treatment system.

SURVEILLANCE REQUIREMENTS

4.14 RADIOACTIVE EFFLUENTS

4.14.A Liquid Holdup Tanks

4.14.A.1 The quantity of radioactive material contained in the tanks shall be determined to be within the 50 curie limit by analyzing a representative sample of the tanks' contents at least once per 7 days when radioactive materials are being added to a tank.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
2. If at any time during REACTOR POWER OPERATION at ≥25% RATED POWER it is determined by normal surveillance that the limiting value for LHGR is being exceeded, action shall then be initiated within 15 minutes to restore operation to within the prescribed limits. If the LHGR is not returned to within the prescribed limits within 2 hours, reduce reactor power to ≤25% of RATED POWER, or to such a power level that the limits are again being met, within the next 4 hours. Surveillance and corresponding action shall continue until the prescribed limits are again being met.	
C. Minimum Critical Power Ratio (MCPR)	C. Minimum Critical Power Ratio (MCPR)
1. MCPR shall be greater than or equal to the MCPR limit specified in the CORE OPERATING LIMITS REPORT.	1. Verify MCPR is greater than or equal to the required limit. a. At least once per day during REACTOR POWER OPERATION AT ≥25% RATED POWER and b. Following any significant change in power level or distribution.
	2. The provisions of Specification 4.0.D are not applicable.

| LIMITING CONDITIONS FOR OPERATION

2. If at any time during REACTOR POWER OPERATION (one or two loop) at ≥25% RATED POWER, it is determined by normal surveillance that the limiting value for MAPLHGR (LAPLHGR) is being exceeded, action shall then be initiated within 15 minutes to restore operation to within the prescribed limits. If the MAPLHGR (LAPLHGR) is not returned to within the prescribed limits within 2 hours, reduce reactor power to ≤25% of RATED POWER, or to such a power level that the limits are again being met, within the next 4 hours.

3. If the reactor is being operated in SLO and cannot be returned to within prescribed limits within this 4 hour period, the reactor shall be brought to the COLD SHUTDOWN condition within 36 hours.

4. For either the one or two loop operating condition surveillance and corresponding action shall continue until the prescribed action is met.

B. Linear Heat Generation Rate (LHGR)

1. All LHGRs shall be less than or equal to the limits specified in the CORE OPERATING LIMITS REPORT.

SURVEILLANCE REQUIREMENTS

B. Linear Heat Generation Rate (LHGR)

At least once per day during reactor power operation at ≥25% rated power, verify all LHGRs are less than or equal to the required limits.

| The provisions of Specification 4.0.D are not applicable.

| LIMITING CONDITIONS FOR OPERATION

3.12 CORE THERMAL LIMITS

Applicability

The Limiting Conditions for Operation associated with the fuel rods apply to those parameters which monitor the fuel rod operating conditions.

Objective

The Objective of the Limiting Conditions for Operation is to assure the performance of the fuel rods.

Specification

A. Maximum Average Planar Linear Heat Generation Rate (MAPLHGR)

1. All MAPLHGRs shall be less than or equal to the limits specified in the CORE OPERATING LIMITS REPORT.

SURVEILLANCE REQUIREMENTS

4.12 CORE THERMAL LIMITS

Applicability

The Surveillance Requirements apply to the parameters which monitor the fuel rod operating conditions.

Objective

The Objective of the Surveillance Requirements is to specify the type and frequency of surveillance to be applied to the fuel rods.

Specifications

A. Maximum Average Planar Linear Heat Generation Rate (MAPLHGR)

At least once per day during reactor power operation at ≥25% of rated power, verify all MAPLHGRs are less than or equal to required limits.

| The provisions of Specification 4.0.D are not applicable.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
b. In the COLD SHUTDOWN or REFUELING mode, with one main control room ventilation standby filter unit filtration subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days or initiate and maintain operation of the OPERABLE subsystem in the isolation mode of operation or suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.	
c. In the COLD SHUTDOWN or REFUELING mode, with both main control room ventilation standby filter unit subsystems inoperable, IMMEDIATELY suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.	
B. REMOTE SHUTDOWN PANELS	B. REMOTE SHUTDOWN PANELS
1. At all times when not in use or being maintained the Remote Shutdown Panels (Bay "A" Door) and local control panels shall be locked.	1. The Remote Shutdown Panels (Bay "A" Door) and local control panels shall be visually checked once per week to verify they are locked.
2. The provisions of Specification 3.0.C are not applicable.	2. Operability of the switches on the Remote Shutdown Panels shall be functionally tested once per operating cycle.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS

2. With one or more of the primary containment isolation valves inoperable, maintain at least one isolation valve OPERABLE* or ISOLATED** and within 4 hours either:

a. Restore the inoperable valve(s) to OPERABLE status, or

b. Isolate each affected penetration by use of at least one automatic valve locked or electrically deactivated in the isolated position,** or

c. Isolate each affected penetration by use of at least one manual valve locked in the isolated position or blind flange.**

The provisions of Specification 3.0.D are not applicable provided that within 4 hours the affected penetration is isolated in accordance with Specification 3.7.D.2.b or 3.7.D.2.c, and provided that the associated system, if applicable, is declared inoperable and the appropriate ACTION statements for that system are performed.

3. If Specification 3.7.D.1, and 3.7.D.2 cannot be met, an orderly shutdown shall be initiated and the reactor shall be in the Cold Shutdown condition within 24 hours.

*This valve may be locked or electrically deactivated as noted in Subsection 3.7.D.2.b.

**Isolation valves closed to satisfy these requirements may be reopened on an intermittent basis under administrative control.

| LIMITING CONDITIONS FOR OPERATION | SURVEILLANCE REQUIREMENTS

3) Type C Tests

Type C tests shall be performed during each reactor shutdown for major refueling or other convenient interval but in no case at intervals greater than two years. The provisions of Specification 4.0.B are not applicable.

4) Additional Periodic Tests

Additional purge system isolation valve leakage integrity testing shall be performed at least once every three months in order to detect excessive leakage of the purge isolation valve resilient seats. The purge system isolation valves will be tested in three groups, by penetration: drywell purge exhaust group (CV-4302 and CV-4303), torus purge exhaust group (CV-4300 and CV-4301), and drywell/torus purge supply group (CV-4307, CV-4308 and CV-4306).

e. Seal Replacement & Mechanical Limiter

The T-ring inflatable seals for purge isolation valves CV-4300, CV-4301, CV-4302, CV-4303, CV-4306, CV-4307 and CV-4308 shall be replaced at intervals not to exceed four years. The provisions of Specification 4.0.B are not applicable.

During Type C testing, it shall be verified that the mechanical modification which limits the maximum opening angle for purge isolation valves CV-4300, CV-4301, CV-4302, CV-4303, CV-4306, CV-4307 and CV-4308 is intact.

The baseline for this requirement shall be established during the Cycle 6/7 refuel outage.

f. Containment Modification

Any major modification, replacement of a component which is part of the primary reactor containment boundary, or resealing a seal-welded door, performed after the preoperational leakage rate test shall be followed by either a Type A, Type B, or Type C test, as applicable, for the area

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

d. Periodic Retest Schedule

1) Type A Test

After the preoperational leakage rate tests, a set of three Type A tests shall be performed, at approximately equal intervals during each 10-year service period. (These intervals may be extended up to eight months if necessary to coincide with refueling outages.) The third test of each set shall be conducted when the plant is shut down for the 10-year plant in-service inspections. The provisions of Specification 4.0.B are not applicable.

The performance of Type A tests shall be limited to periods when the plant facility is nonoperational and secured in the shutdown condition under administrative control and in accordance with the plant safety procedures.

2) Type B Tests

a) Penetrations and seals of this type (except air locks) shall be leak tested at greater than or equal to 43 psig (P_a) during each reactor shutdown for major fueling or other convenient interval but in no case at intervals greater than two years. The provisions of Specification 4.0.B are not applicable.

b) The personnel airlock shall be pressurized to greater than or equal to 43 psig (P_a) and leak tested at least once every six (6) months. This test interval may be extended to the next refueling outage (up to a maximum interval between P_a tests of 24 months) provided there have been no airlock openings since the last successful test at P_a. The provisions of Specification 4.0.B are not applicable to the 24-month surveillance interval.

The first 10-year interval for inservice testing of pumps and valves in accordance with the ASME Code, Section XI commenced on February 1, 1975 and ended on January 31, 1985. The second 10-year inservice testing interval commenced on February 1, 1985 and is scheduled to end on January 31, 1995. The second 10-year testing program addresses the requirements of the ASME Code, Section XI, 1980 Edition with Addenda through Winter 1981, subject to the limitations and modifications of 10 CFR 50.55a. Section 3.9.6 of the Updated FSAR describes the inservice testing program.

This specification includes a clarification of the frequencies for performing the inservice inspection and testing activities required by Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda. This clarification is provided to ensure consistency in surveillance intervals throughout the Technical Specifications and to remove any ambiguities relative to the frequencies for performing the required inservice inspection and testing activities.

Under the terms of this specification, the more restrictive requirements of the Technical Specifications take precedence over the ASME Boiler and Pressure Vessel Code and applicable Addenda. The requirements of Specification 4.0.D to perform surveillance activities before entry into a CONDITION takes precedence over the ASME Boiler and Pressure Vessel Code provision that allows pumps and valves to be tested up to one week after return to normal operation. The Technical Specification definition of OPERABLE does not allow a grace period before a component, which is not capable of performing its specified function, is declared inoperable and takes precedence over the ASME Boiler and Pressure Vessel Code provision that allows a valve to be incapable of performing its specified function for up to 24 hours before being declared inoperable.

3.6.D & 4.6.D BASES:

Safety and Relief Valves

The pressure relief system has been sized to meet two design bases. First, the total safety/relief valve capacity has been established to meet the overpressure protection criteria of the ASME Code. Second, the distribution of this required capacity between safety valves and relief valves has been set to meet power generation design basis #1 of Section 5.4.13.1 of the Updated FSAR, which states that the nuclear system relief valves shall prevent opening of the safety valves during normal plant isolations and load rejections.

The details of the analysis which shows compliance with the ASME Code requirements is presented in Subsection 5.4.13 of the Updated FSAR and is reverified in individual reload analyses.

Six relief valves and two safety valves are installed. The analysis of the worst overpressure transient, (3-second closure of all main steam line isolation valves) neglecting the direct scram (valve position scram) results in a peak vessel pressure less than the Code allowable overpressure limit of 1375 psig if a flux scram is assumed.

The relief valve setpoints given in Section 2.2.1.B have been optimized to maximize the simmer margin, i.e., the difference between the normal operating pressure and the lowest relief valve setpoint. The Reference 2 analysis shows that the six relief valves assure margin below the setting of the safety valves such that the safety valves would not be expected to open during any normal operating transient.* This analysis verifies that the peak system pressure during such an event is limited to greater than the 60 psi design margin to the lowest spring safety valve setpoint.

Experience in relief and safety valve operation shows that a testing of 50 percent of the valves per OPERATING CYCLE is adequate to detect failures or deteriorations. The relief and safety valves are bench tested every second OPERATING CYCLE to ensure that their setpoints are within the 1 percent tolerance. Additionally, once per OPERATING CYCLE, each relief valve is tested manually with reactor pressure above 100 psig and with turbine bypass flow to the main condenser to demonstrate its ability to pass steam. By observation of the change in position of the turbine bypass valve, the relief valve operation is verified. A time period of 12 hours is given to complete this surveillance. If it is not successfully completed within the 12 hour period, a 72 hour period is given to allow any remedial measures to be taken and time for operators to safely reduce reactor pressure below 100 psig.

The requirements established above apply when the nuclear system can be pressurized above ambient conditions. These requirements are applicable at nuclear system pressures below normal operating pressures because abnormal operational transients could possibly start at these conditions such that eventual overpressure relief would be needed. However, these transients are much less severe, in terms of pressure, than those starting at rated conditions. The valves need not be functional when the vessel head is removed, since the nuclear system cannot be pressurized.

The surveillance requires that at least once per OPERATING CYCLE at least one safety valve and 3 relief valves shall be removed, set pressure tested and reinstalled or replaced with spares that have been previously set pressure tested. For the most part, these valves will be set pressure tested and stored in accordance with the manufacturer's recommendations. There may be conditions where DAEC may not be notified by the manufacturer of new storage requirements or DAEC may take exception with the requirements. In these isolated cases, DAEC and the manufacturer will come to resolution on an acceptable position.

*A normal operating transient is defined as an event whose probability of occurrence is greater than once per 40 years, e.g., Turbine Trip with Bypass, MSIV closure with direct scram.

TABLE 4.6.H-1
SNUBBER VISUAL INSPECTION INTERVAL

NUMBER OF UNACCEPTABLE SNUBBERS

Population or Category (Notes 1 and 2)	Column A Extend Interval (Notes 3 and 6)	Column B Repeat Interval (Notes 4 and 6)	Column C Reduce Interval (Notes 5 and 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
1000 or greater	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number or unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of Specification 4.0.B are applicable to all inspection intervals up to and including 48 months.

LIMITING CONDITIONS FOR OPERATION

4. In RUN, STARTUP, or HOT SHUTDOWN MODE with Specification 3.6.G.2, or 3.6.G.3 not met:

   a. perform an engineering evaluation to determine the effects of the component(s) condition for continued operation; and

   b. determine that the component(s) remain acceptable for continued operation.

   If the above requirements cannot be met, isolate the affected component(s) and follow the applicable system LCO.

H. Shock Suppressors (Snubbers)

1. During RUN, STARTUP, and HOT SHUTDOWN MODES all safety-related snubbers shall be OPERABLE. In COLD SHUTDOWN and REFUELING MODES safety-related snubbers, located on those systems required to be OPERABLE, must be OPERABLE.

2. With one or more snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Surveillance Requirement 4.6.H.4 on the supported component or declare the supported system inoperable and follow the appropriate LCO for that system.

SURVEILLANCE REQUIREMENTS

3. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.

4. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

5. The augmented inspection program for piping identified in NRC Generic Letter 88-01 shall be performed in accordance with the staff positions on schedule, methods, personnel, and sample expansion included in this Generic Letter.

H. Shock Suppressors (Snubbers)

Each safety-related snubber shall be demonstrated OPERABLE by performance of the following augmented inspection program and the Surveillance Requirements of 4.6.H.5 and 4.6.H.6.

1. Visual Inspections

Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 4.6.H-1. The visual inspection interval for each type of snubber shall be determined based upon the criteria provided in Table 4.6.H-1 and the first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect before amendment No. (NRC to assign no.).

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
F. Jet Pump Flow Mismatch	F. Jet Pump Flow Mismatch
1. With core power greater than or equal to 80% RATED POWER with both recirculation pumps at steady state operation, the speed of the faster pump may not exceed 122% of the speed of the slower pump.	1. Recirculation pump speed mismatch shall be verified at least once per day.
2. With core power less than 80% RATED POWER with both recirculation pumps at steady state operation, the speed of the faster pump may not exceed 135% of the speed of the slower pump.	
3. With the recirculation pump speeds different by more than the specified limits:	
a. restore the recirculation pump speeds to within the specified limit within 2 hours, or	
b. one recirculation pump shall be tripped. See Specification 3.3.F.4 for SLO requirements.	2. See Surveillance Requirement 4.3.F.4 for SLO requirements.
G. Structural Integrity	G. Structural Integrity
1. At all times, the structural integrity of the ASME Section XI Code Class 1, 2, and 3 components shall be maintained in accordance with Surveillance Requirement 4.6.G.1.	1. Inservice inspection of ASME Section XI Code Class 1, Class 2, and Class 3 components and inservice testing of ASME Section XI Code Class 1, Class 2, and Class 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10CFR50, Section 50.55a(g), except where specific written relief has been granted by the NRC pursuant to 10CFR50, Section 50.55a(g)(6)(i).
2. With the structural integrity of any ASME Section XI Code Class 1 or Class 2 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature above 212°F.	2. Surveillance frequencies specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities are defined in Specification 1.0 (FREQUENCY NOTATION). The provisions of Specification 4.0.B are applicable to these defined frequencies for performing inservice inspection and testing activities.
3. With the structural integrity of any ASME Section XI Code Class 3 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) from service.	