or more plant parameters in order to initiate trip system action. Initiation of protective action may require the tripping of a single trip system or the coincident tripping of two trip systems.

3. Protective Action - An action initiated by the protection system when a limit is reached. A protective action can be at a channel or system level.

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

P. Rated Neutron Flux - Rated neutron flux is the neutron flux that corresponds to a steady state power level of 1593 thermal megawatts.

Q. Rated Thermal Power - Rated thermal power means a steady state power level of 1593 thermal megawatts.

R. Reactor Power Operation - Reactor power operation is any operation with the mode switch in the "Startup/Hot Standby" or "Run" position with the reactor critical and above 1% rated thermal power.

1. Startup/Hot Standby Mode - In this mode the low turbine condenser vacuum trip is bypassed when condenser vacuum is less than 12 inches Hg and both turbine stop valves and bypass valves are closed; the low pressure and the 10 percent closure main steamline isolation valve closure trips are bypassed; the reactor protection system is energized with IRM neutron monitoring system trips and control rod withdrawal interlocks in service and APRM neutron monitoring system operable.

2. Run Mode - In this mode the reactor system pressure is equal to or greater than 800 psig and the reactor protection system is energized with APRM protection and RBM interlocks in service.

S. Reactor Vessel Pressure - Unless otherwise indicated, reactor vessel pressures listed in the Technical Specifications are those measured by the reactor vessel steam space detector.

T. Refueling Outage - Refueling outage is the period of time between the shutdown of the unit prior to a refueling and the startup of the plant subsequent to that refueling. For the purpose of designating frequency of testing and surveillance, a refueling outage shall mean a regularly scheduled refueling outage; however, where such outages occur within 8 months of the completion of the previous refueling outage, the required surveillance testing need not be performed until the next regularly scheduled outage.

U. Deleted

V. 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. When the mode switch is placed in the shutdown position a reactor scram is initiated, power to the control rod drives is removed, and the reactor protection system trip systems are de-energized.

1. Hot Shutdown means conditions as above with reactor coolant temperature greater that 212°F.

2. Cold Shutdown means conditions as above with reactor coolant temperature equal to or less than 212°F.

3. Shutdown means conditions as above such that the effective multiplication factor (K_{eff}) of the core shall be less than 0.99.

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

X. Transition Boiling - Transition boiling means the boiling regime between nucleate and film boiling. Transition boiling is the regime in which both nucleate and film boiling occur intermittently with neither type being completely stable.

Y. Surveillance Frequency - Unless otherwise stated in these specifications, periodic surveillance tests, checks, calibrations, and examinations shall be performed within the specified surveillance intervals. These intervals may be adjusted plus 25%. The operating cycle interval is considered to be 18 months and the tolerance stated above is applicable.

If it is discovered that a surveillance was not performed within its specified frequency, declaring applicable Limiting Conditions for Operation (LCOs) not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified frequency, whichever is less. This delay period is permitted to allow performance of the surveillance.

If the surveillance is not performed within the delay period, applicable LCOs must immediately be declared not met, and applicable LCOs must be entered.

When the surveillance is performed within the delay period and the surveillance is not met (i.e., acceptance criteria are not satisfied), applicable LCOs must immediately be declared not met, and applicable LCOs must be entered.

3.7 LIMITING CONDITIONS FOR OPERATION	4.7 SURVEILLANCE REQUIREMENTS
ΔP is reduced to <1.7) during required operability testing of the HPCI system pump, the RCIC system pump, the drywell-suppression chamber vacuum breakers, and the suppression chamber-reactor building vacuum breakers, and SGTS testing.	
d. If the specifications of 3.7.A.9.a cannot be met, and the differential pressure cannot be restored within the subsequent six (6) hour period, an orderly shutdown shall be initiated and the reactor shall be in a Hot Shutdown condition in six (6) hours and a Cold Shutdown condition in the following eighteen (18) hours.	
B. Standby Gas Treatment System	B. Standby Gas Treatment System
1. a. Except as specified in Specification 3.7.B.3.a below, whenever the reactor is in Run Mode or Startup Mode or Hot Shutdown condition, both trains of the Standby Gas Treatment System shall be operable at all times when secondary containment integrity is required.	1. At least once per operating cycle, not to exceed 18 months, the following conditions shall be demonstrated. a. Pressure drop across the combined HEPA and charcoal filter banks is less than 6 inches of water at 1500 cfm ±10%. b. Inlet heater input is at least 9 kW.
b. Except as specified in Specification 3.7.B.3.b below, whenever the reactor is in Refuel Mode or Cold Shutdown condition, both trains of the Standby Gas	

3.7 LIMITING CONDITIONS FOR OPERATION	4.7 SURVEILLANCE REQUIREMENTS
Treatment System and an alternate electrical power source, consisting of the associated Emergency Diesel Generator or Vernon tie, for each standby gas treatment train shall be operable at all times when secondary containment integrity is required.	
2. a. The results of the in-place cold DOP and halogenated hydrocarbon tests at design flows on HEPA and charcoal filter banks shall show ≥99% DOP removal and ≥99% halogenated hydrocarbon removal.	2. a. The tests and sample analysis of Specification 3.7.B.2 shall be performed initially and at least once per operating cycle not to exceed 18 months, and following painting, fire or chemical release in any ventilation zone communicating with the system, while the system is operating, that could contaminate the HEPA filters or charcoal adsorbers.
b. The results of laboratory carbon sample analysis shall show ≥97.5% radioactive methyl iodide removal (30°C, 70% RH). Laboratory analysis results shall be verified acceptable within 31 days following sample removal.	b. Cold DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank.
c. System fans shall be shown to operate within ±10% of design flow.	c. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal filter bank. In addition, the sample analysis of Specification 3.7.B.2.b and the halogenated hydrocarbon test shall be performed after every 720 hours of normal system operation.
d. If Specification 3.7.B.2.a, 3.7.B.2.b, or 3.7.B.2.c is not met, the applicable train of the Standby Gas Treatment System shall be considered inoperable.	d. Each train shall be operated with the heaters on at least 10 hours every month.
	e. An ultrasonic leak test shall be performed on the gaskets sealing the housing panels downstream of the HEPA filters and adsorbers at least

3.7 LIMITING CONDITIONS FOR OPERATION	4.7 SURVEILLANCE REQUIREMENTS
3. a. From and after the date that one train of the Standby Gas Treatment System is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding seven days unless such train is sooner made operable, provided that during such seven days all active components of the other standby gas treatment train shall be operable. If this condition cannot be met during reactor operation, or the inoperable train is not restored to operable status within seven days, the actions and completion times of Specification 3.7.B.4.a shall apply.	once per operating cycle not to exceed 18 months. If the ultrasonic test indicates the presence of a leak, the condition will be evaluated and the gasket repaired or replaced as necessary. f. DOP and halogenated hydrocarbon test shall be performed following any design modification to the Standby Gas Treatment System housing that could have an effect on the filter efficiency. g. An air distribution test demonstrating uniformity within ±20% across the HEPA filters and charcoal adsorbers shall be performed if the SGTS housing is modified such that air distribution could be affected.
3. b. From and after the date that one train of the Standby Gas Treatment System is made or found to be inoperable for any reason, operations requiring secondary containment are permissible during the succeeding seven days unless such train is sooner made operable, provided that during such seven days all active components, including the associated Emergency Diesel Generator of the other standby gas treatment train shall be operable. If this condition cannot be met during a refueling or cold	3. a. At least once per operating cycle automatic initiation of each train of the Standby Gas Treatment System shall be demonstrated. b. Operability testing of valves shall be in accordance with Specification 4.6.E. c. When one train of the Standby Gas Treatment System is made or found to be inoperable, the other train shall have been or shall be demonstrated to be operable within 24 hours.

3.7 LIMITING CONDITIONS FOR OPERATION

4.7 SURVEILLANCE REQUIREMENTS

shutdown condition, the actions and completion times of Specification 3.7.B.4.b shall apply. After seven days with an inoperable train of the Standby Gas Treatment System during refueling or cold shutdown conditions requiring secondary containment integrity, the operable train of the Standby Gas Treatment System shall be placed in operation and its associated diesel generator shall be operable, or the actions and completion times of Specification 3.7.B.4.b shall apply.

4. With two trains of the Standby Gas Treatment System inoperable, or as made applicable by Specification 3.7.B.3:

   a. With the reactor in the run mode, startup mode, or hot shutdown condition, the reactor shall be placed in hot shutdown within 12 hours and cold shutdown within 36 hours.

   b. During movement of irradiated fuel assemblies or the fuel cask in the secondary containment, during core alterations, or during operations with the potential for draining the reactor vessel, immediately:

3.7 LIMITING CONDITIONS FOR OPERATION	4.7 SURVEILLANCE REQUIREMENTS
i. Suspend movement of irradiated fuel assemblies and the fuel cask in secondary containment; and	
ii. Suspend core alterations; and	
iii. Initiate action to suspend operations with the potential for draining the reactor vessel.	
C. Secondary Containment System	C. Secondary Containment System
1. Secondary Containment Integrity shall be maintained during the following modes or conditions:	1. Surveillance of secondary containment shall be performed as follows:
a. Whenever the reactor is in the Run Mode, Startup Mode, or Hot Shutdown condition*; or	a. A preoperational secondary containment capability test shall be conducted after isolating the Reactor Building and placing either Standby Gas Treatment System filter train in operation. Such tests shall demonstrate the capability to maintain a 0.15 inch of water vacuum under calm wind ($2 < u < 5$ mph) condition with a filter train flow rate of not more than 1500 cfm.

* NOTE: The reactor mode switch may be changed to either the Run or Startup/Hot Standby position, and operation not considered to be in the Run Mode or Startup Mode, to allow testing of instrumentation associated with the reactor mode switch interlock functions, provided:

1. Reactor coolant temperature is $\leq 212°F$;
2. All control rods remain fully inserted in core cells containing one or more fuel assemblies; and
3. No core alterations are in progress.

3.7 LIMITING CONDITIONS FOR OPERATION	4.7 SURVEILLANCE REQUIREMENTS
b. During movement of irradiated fuel assemblies or the fuel cask in secondary containment; or	b. Additional tests shall be performed during the first operating cycle under an adequate number of different environmental wind conditions to enable valid extrapolation of the test results.
c. During alteration of the Reactor Core; or	c. Secondary containment capability to maintain a 0.15 inch of water vacuum under calm wind ($2<\tilde{u}<5$ mph) conditions with a filter train flow rate of not more than 1,500 cfm, shall be demonstrated at least quarterly and at each refueling outage prior to refueling.
d. During operations with the potential for draining the reactor vessel.	

3.7 LIMITING CONDITIONS FOR OPERATION	4.7 SURVEILLANCE REQUIREMENTS
2. With Secondary Containment Integrity not maintained with the reactor in the Run Mode, Startup Mode, or Hot Shutdown condition, restore Secondary Containment Integrity within four (4) hours.	2. Intentionally blank.
3. If Specification 3.7.C.2 cannot be met, place the reactor in the Hot Shutdown condition within 12 hours and in the Cold Shutdown condition within the following 24 hours.	3. Intentionally blank.
4. With Secondary Containment Integrity not maintained during movement of irradiated fuel assemblies or the fuel cask in secondary containment, during alteration of the Reactor Core, or during operations with the potential for draining the reactor vessel, immediately perform the following actions: a. Suspend movement of irradiated fuel assemblies and the fuel cask in secondary containment; and b. Suspend alteration of the Reactor Core; and c. Initiate action to suspend operations with the potential for draining the reactor vessel.	4. Intentionally blank.
5. Core spray and LPCI pump lower compartment door openings shall be closed at all times except during passage or when reactor coolant temperature is less than 212°F.	5. The core spray and LPCI lower compartment openings shall be checked closed daily.

3.7 LIMITING CONDITIONS FOR OPERATION	4.7 SURVEILLANCE REQUIREMENTS
D. Primary Containment Isolation Valves	D. Primary Containment Isolation Valves
1. During reactor power operating conditions all containment isolation valves and all instrument line flow check valves shall be operable except as specified in Specification 3.7.D.2.	1. Surveillance of the primary containment isolation valves should be performed as follows: a. The operable isolation valves that are power operated and automatically initiated shall be tested for automatic initiation and the closure times specified in Table 4.7.2 at least once per operating cycle. b. Operability testing of the primary containment isolation valves shall be performed in accordance with Specification 4.6.E. c. At least once per quarter, with the reactor power less than 75 percent of rated, trip all main steam isolation valves (one at a time) and verify closure time.
2. In the event any containment isolation valve becomes inoperable, reactor power operation may continue provided at least one containment isolation valve in each line having an inoperable valve is in the mode corresponding to the isolated condition.	2. Whenever a containment isolation valve is inoperable, the position of at least one other valve in each line having an inoperable valve shall be logged daily.
3. If Specifications 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.	

3.7 LIMITING CONDITIONS FOR OPERATION

E. Reactor Building Automatic Ventilation System Isolation Valves (RBAVSIVs)

When secondary containment integrity is required, each RBAVSIV shall be operable, except as provided below.

1. With one or more penetration flow paths with one RBAVSIV inoperable, isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve or blind flange within 8 hours.

2. With one or more penetration flow paths with two RBAVSIVs inoperable, isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve or blind flange within 4 hours.

3. If the actions and completion times of Specification 3.7.E.1 or 3.7.E.2 cannot be met when the reactor is in the run mode, startup mode, or hot shutdown condition, the reactor shall be placed in hot shutdown within 12 hours and cold shutdown within 36 hours.

4. If the actions and completion times of Specification 3.7.E.1 or 3.7.E.2 cannot be met during movement of irradiated fuel assemblies or the fuel cask in the secondary containment, during core alterations, or during operations with the potential for draining the reactor vessel, immediately:

   a. Suspend movement of irradiated fuel assemblies and the fuel cask in secondary containment; and

   b. Suspend core alterations; and

   c. Initiate action to suspend operations with the potential for draining the reactor vessel.

4.7 SURVEILLANCE REQUIREMENTS

E. Reactor Building Automatic Ventilation System Isolation Valves (RBAVSIVs)

1. When secondary containment integrity is required, with one or more penetration flow paths with one or more RBAVSIVs inoperable, verify the affected penetration flow path is isolated once per 31 days.

2. Operability testing of the RBAVSIVs shall be performed in accordance with Specification 4.6.E.

BASES: 3.7 (Cont'd)

surveillances such as monthly torus to drywell vacuum breaker tests. Procedurally, when AC-6A is open, AC-6 and AC-7 are closed to prevent overpressurization of the SBGT system or the reactor building ductwork, should a LOCA occur. For this and similar analyses performed, a spurious opening of AC-6 or AC-7 (one of the closed containment isolation valves) is not assumed as a failure simultaneous with a postulated LOCA. Analyses demonstrate that for normal plant operation system alignments, including surveillances such as those described above, that SBGT integrity would be maintained if a LOCA was postulated. Therefore, during normal plant operations, the 90 hour clock does not apply. Accordingly, opening of the 18 inch atmospheric control isolation valves AC-7A, AC-7B, AC-8 and AC-10 will be limited to 90 hours per calendar year (except for performance of the subject valve stroke time surveillances - in which case the appropriate corresponding valves are closed to protect equipment should a LOCA occur). This restriction will apply whenever primary containment integrity is required. The 90 hour clock will apply anytime purge and vent evolutions can not assure the integrity of the SBGT trains or related equipment.

B. and C. Standby Gas Treatment System and Secondary Containment System

The secondary containment is designed to minimize any ground level release of radioactive materials which might result from a serious accident. The Reactor Building provides secondary containment during reactor operation, when the drywell is sealed and in service; the Reactor Building provides primary containment when the reactor is shutdown and the drywell is open, as during refueling. Because the secondary containment is an integral part of the complete containment system, secondary containment is required at all times that primary containment is required except, however, for initial fuel loading and low power physics testing.

In the Cold Shutdown condition or the Refuel Mode, the probability and consequences of the LOCA are reduced due to the pressure and temperature limitations in these conditions. Therefore, maintaining Secondary Containment Integrity is not required in the Cold Shutdown condition or the Refuel Mode, except for other situations for which significant releases of radioactive material can be postulated, such as during operations with a potential for draining the reactor vessel, during alteration of the Reactor Core, or during movement of irradiated fuel assemblies or the fuel cask in the secondary containment.

In order for secondary containment integrity to be met, the secondary containment must function properly in conjunction with the operation of the Standby Gas Treatment System to ensure that the required vacuum can be established and maintained. This means that the reactor building is intact with at least one door in each access opening closed, and all reactor building automatic ventilation system isolation valves are operable or the affected penetration flow path is isolated.

With the reactor in the Run Mode, the Startup Mode, or the Hot Shutdown condition, if Secondary Containment Integrity is not maintained, Secondary Containment Integrity must be restored within 4 hours. The 4 hours provides a period of time to correct the problem that is commensurate with the importance of maintaining secondary containment during the Run Mode, the Startup Mode, and the Hot Shutdown condition. This time period also ensures that the probability of an accident (requiring Secondary Containment Integrity) occurring during periods where Secondary Containment Integrity is not maintained, is minimal.

BASES: 3.7 (Cont'd)

If Secondary Containment Integrity cannot be restored within the required time period, the plant must be brought to a mode or condition in which the LCO does not apply.

Movement of irradiated fuel assemblies or the fuel cask in the secondary containment, alteration of the Reactor Core, and operations with the potential for draining the reactor vessel can be postulated to cause fission product release to the secondary containment. In such cases, the secondary containment is the only barrier to release of fission products to the environment. Alteration of the Reactor Core and movement of irradiated fuel assemblies and the fuel cask must be immediately suspended if Secondary Containment Integrity is not maintained. Suspension of these activities shall not preclude completing an action that involves moving a component to a safe position. Also, action must be immediately initiated to suspend operations with the potential for draining the reactor vessel to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until operations with the potential for draining the reactor vessel are suspended.

BASES: 3.7 (Cont'd)

The Standby Gas Treatment System (SGTS) is designed to filter and exhaust the Reactor Building atmosphere to the stack during secondary containment isolation conditions, with a minimum release of radioactive materials from the Reactor Building to the environs. To insure that the standby gas treatment system will be effective in removing radioactive contaminates from the Reactor Building air, the system is tested periodically to meet the intent of ANSI N510-1975. Laboratory charcoal testing will be performed in accordance with ASTM D3803-1989, except, as allowed by GL 99-02, testing can be performed at 70% relative humidity for systems with humidity control. Both standby gas treatment fans are designed to automatically start upon containment isolation and to maintain the Reactor Building pressure to approximately a negative 0.15 inch water gauge pressure; all leakage should be in-leakage. Should the fan fail to start, the redundant alternate fan and filter system is designed to start automatically. Each of the two fans has 100% capacity. This substantiates the availability of the operable train and results in no added risk; thus, reactor operation or refueling operation can continue. If neither train is operable, the plant is brought to a condition where the system is not required.

When the reactor is in cold shutdown or refueling the drywell may be open and the Reactor Building becomes the only containment system. During cold shutdown the probability and consequences of a DBA LOCA are substantially reduced due to the pressure and temperature limitations in this mode. However, for other situations under which significant radioactive release can be postulated, such as during operations with a potential for draining the reactor vessel, during core alterations, or during movement of irradiated fuel in the secondary containment, operability of standby gas treatment is required.

Both trains of the Standby Gas Treatment System are normally operable when secondary containment integrity is required. However, Specification 3.7.B.3 provides Limiting Conditions for Operation when one train of the Standby Gas Treatment System is inoperable. Provisional, continued operation is permitted since the remaining operable train is adequate to perform the required radioactivity release control function. If the applicable conditions of Specification 3.7.B.3 cannot be met, the plant must be placed in a mode or condition where the Limiting Conditions for Operation do not apply.

Entry into a refueling condition with one train of SBGTS inoperable is acceptable and there is no prohibition on mode or condition entry in this situation. In this case, the requirements of TS 3.7.B.3.b are sufficient to ensure that adequate controls are in place. During refueling conditions, accident risk is significantly reduced, and the primary activities of concern involve core alterations, movement of irradiated fuel assemblies, and OPDRVs.

During refueling and cold shutdown conditions Specification 3.7.B.3.b provides for the indefinite continuance of refueling operations with one train of the Standby Gas Treatment System inoperable. When the seven-day completion time associated with Specification 3.7.B.3.b is not met and secondary containment integrity is required, the operable train of the Standby Gas Treatment System should immediately be placed into operation. This action ensures that the remaining train is operable, that no failures that could prevent automatic actuation have occurred, and that any other failure would be readily detected. An alternative to placing the operable train of Standby Gas Treatment in operation is to immediately suspend activities that represent a potential for releasing radioactive material to the secondary containment, thus placing the plant in a condition that minimizes risk.

BASES: 3.7 (Cont'd)

An alternate electrical power source for the purposes of Specification 3.7.B.1.b shall consist of either an Emergency Diesel Generator (EDG) or the Vernon Hydro tie line. Maintaining availability of the Vernon Hydro tie line as an alternative to one of the EDGs in this condition provides assurance that standby gas treatment can, if required, be operated without placing undue constraints on EDG maintenance availability. Inoperability of both trains of the SGTS or both EDGs during refueling operations requires suspension of activities that represent a potential for releasing radioactive material to the secondary containment, thus placing the plant in a condition that minimizes risk.

Use of the SGTS, without the fan and the 9 kW heater in operation, as a vent path during torus venting does not impact subsequent adsorber capability because of the very low flows and because humidity control is maintained by the standby 1 kW heaters, therefore operation in this manner does not accrue as operating time.

D. Primary Containment Isolation Valves

Double isolation valves are provided on lines that penetrate the primary containment and communicate directly with the reactor vessel and on lines that penetrate the primary containment and communicate with the primary containment free space. Closure of one of the valves in each line would be sufficient to maintain the integrity of the pressure suppression system. Automatic initiation is required to minimize the potential leakage paths from the containment in the event of a loss-of-coolant accident.

E. Reactor Building Automatic Ventilation System Isolation Valves (RBAVSIVs)

The function of the RBAVSIVs, in combination with other accident mitigation systems, is to limit fission product release during and following postulated Design Basis Accidents (DBAs). The operability requirements for RBAVSIVs help ensure that an adequate secondary containment boundary is maintained during and after an accident by minimizing potential paths to the environment. The RBAVSIVs must be operable (or the penetration flow path isolated) to ensure secondary containment integrity and to limit the potential release of fission products to the environment. The valves covered by this Limiting Condition for Operation are included in the Inservice Testing Program.

In the event that there are one or more RBAVSIVs inoperable, the affected penetration flow path(s) must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. The required action must be completed within the eight hour or four hour completion time, as applicable. The specified time periods are reasonable considering the time required to isolate the penetration, and the probability of a DBA occurring during this short time.

If any required action or completion time cannot be met as a result of one or more inoperable RBAVSIVs, the plant must be placed in a mode or condition where the Limiting Condition for Operation does not apply. To achieve this status during reactor power operation, the reactor must be brought to at least hot shutdown within 12 hours and to cold shutdown within 36 hours. If applicable, core alterations and the movement of irradiated fuel assemblies and the fuel cask in the secondary containment must be immediately suspended. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be immediately initiated to suspend OPDRVs in order to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Actions must continue until OPDRVs are suspended.

4.7 STATION CONTAINMENT SYSTEMS

A. Primary Containment System

The interiors of the drywell and suppression chamber are painted with an inorganic zinc primer to prevent rusting that could lead to degradation of the containment pressure boundary. The inspection of the painted surfaces as part of inservice inspection under 10 CFR 50.55a(b)(2)(vi) assures that the paint and the underlying base metal have not degraded. Experience with this type of coating during plant operating cycles between 1972 and the present indicates that this inspection methodology and interval are adequate.

Because of the large volume and thermal capacity of the suppression pool, the level and temperature normally changes very slowly and monitoring these parameters daily is sufficient to establish any temperature trends.

The average temperature is determined by taking an arithmetic average of OPERABLE suppression pool water temperature channels. The daily frequency has been shown, based on operating experience, to be acceptable. The frequencies are further justified in view of other indications available in the Control Room, including alarms, to alert operators to an abnormal condition.

When heat is being added to the suppression pool by testing, however, it is necessary to monitor suppression pool temperature more frequently. The 5 minute frequency during testing is justified by the rate at which tests will heat up the suppression pool. This has been shown to be acceptable based on operating experience, and provides assurance that allowable pool temperatures are not exceeded.

The requirement for an external visual examination following any event where potentially high loadings could occur provides assurance that no significant damage was encountered. Particular attention should be focused on structural discontinuities in the vicinity of the relief valve discharge since these are expected to be the points of highest stress. Visual inspection of the suppression chamber including water line regions each refueling outage is adequate to detect any changes in the suppression chamber structures.

BASES: 4.7 (Cont'd)

D. Primary Containment Isolation Valves

Those large pipes comprising a portion of the reactor coolant system whose failure could result in uncovering the reactor core are supplied with automatic isolation valves (except those lines needed for emergency core cooling system operation or containment cooling). The closure times specified herein and per Specification 4.6.E are adequate to prevent loss of more cooling from the circumferential rupture of any of these lines outside the containment than from a steam line rupture. Therefore, the isolation valve closure times are sufficient to prevent uncovering the core.

Purge and vent valve testing performed by Allis-Chalmers has demonstrated that all butterfly purge and vent valves installed at Vermont Yankee can close from full open conditions at design basis containment pressure. However, as an additional conservative measure, limit stops have been added to valves 16-19-7/7A, limiting the opening of these valves to 50° open while operating, as requested by NRC in their letter of May 22, 1984. (NVY 84-108)

In order to assure that the doses that may result from a steam line break do not exceed the 10CFR100 guidelines, it is necessary that no fuel rod perforation resulting from the accident occur prior to closure of the main steam line isolation valves. Analyses indicate the fuel rod cladding perforations would be avoided for the main steam valve closure times, including instrument delay, as long as 10.5 seconds. The test closure time limit of five seconds for these main steam isolation valves provides sufficient margin to assure that cladding perforations are avoided and 10CFR100 limits are not exceeded. Redundant valves in each line ensure that isolation will be effected applying the single failure criteria.

The main steam isolation valves are primary containment isolation valves and are tested in accordance with the requirements of the Inservice Testing program.

The containment is penetrated by a large number of small diameter instrument lines. The flow check valves in these lines are tested for operability in accordance with Specification 4.6.E.

E. Reactor Building Automatic Ventilation System Isolation Valves (RBAVSIVs)

In the event that there are one or more RBAVSIVs inoperable when secondary containment integrity is required, the affected penetrations that have been isolated must be verified to be isolated on a periodic basis. This is necessary to ensure that those penetrations required to be isolated following an accident, but no longer capable of being automatically isolated, will be in the isolated position should an event occur. The verification frequency of once per 31 days is appropriate because the valves are operated under administrative controls and the probability of their misalignment is low. Verification of isolation does not require any testing or device manipulation. Rather, it involves verification that the affected penetration remains isolated.

The RBAVSIVs covered by this surveillance requirement, along with their test requirements, are included in the Inservice Testing Program.