



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-295

ZION NUCLEAR POWER STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 177  
License No. DPR-39

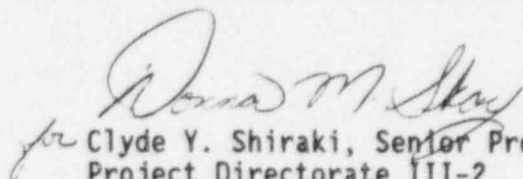
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Commonwealth Edison Company (the licensee) dated July 26, 1996, as supplemented on September 3, 1996, September 18, 1996, two submittals dated October 14, 1996, October 22, 1996, two submittals dated November 8, 1996, and December 17, 1996, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-39 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 177, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

  
for Clyde Y. Shiraki, Senior Project Manager  
Project Directorate III-2  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: December 20, 1996



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-304

ZION NUCLEAR POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 164  
License No. DPR-48

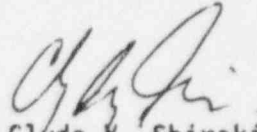
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  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-48 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 164, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Clyde Y. Shiraki, Senior Project Manager  
Project Directorate III-2  
Division of Reactor Projects - III/IV  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: December 20, 1996

ATTACHMENT TO LICENSE AMENDMENT NOS. 177 AND 164

FACILITY OPERATING LICENSE NOS. DPR-39 AND DPR-48

DOCKET NOS. 50-295 AND 50-304

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change.

Remove Pages

5  
6  
79  
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82  
83  
83a  
83b  
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93a  
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316b

Insert Pages

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83a  
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316b

## 1.0 DEFINITIONS

### 1.28 OPERATING

OPERATING is defined as performing the intended function in the intended manner.

### 1.29 OPERATING CYCLE

The OPERATING CYCLE shall be the interval between the end of one major refueling outage and the end of the next subsequent major refueling outage per unit.

### 1.30 OPERATIONAL MODE - MODE

An OPERATIONAL MODE (i.e. MODE) shall correspond to any one inclusive combination of core reactivity condition, power level, and average reactor coolant temperature specified in Table 1.1, when fuel assemblies are present in the reactor vessel.

### 1.31 PHYSICS TESTS

PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation and 1) described in Chapter 14.0 of the FSAR, 2) authorized under the provisions of 10 CFR 50.59, or 3) otherwise approved by the Commission.

### 1.32 PRESSURE BOUNDARY LEAKAGE

PRESSURE BOUNDARY LEAKAGE shall be leakage (except steam generator tube leakage) through a non-isolable fault in the Reactor Coolant System component body, pipe wall, or vessel wall.

### 1.32a PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

The PTLR is the unit specific document that provides the reactor vessel pressure and

temperature limits, including heatup and cooldown rates, and the power operated relief valve (PORV) lift settings and enable temperature associated with the L/w Temperature Overpressure Protection (LTOP) System, for the current reactor vessel fluence period. These pressure and temperature limits shall be determined for each fluence period in accordance with the Specification 6.6.1.G. Plant operation with these operating limits is addressed in individual Specifications.

### 1.33 PROCESS CONTROL PROGRAM (PCP)

The PROCESS CONTROL PROGRAM (PCP) shall contain the current formulas, sampling, analyses, tests and determinations to be made to ensure that the processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR Parts 20, 61 and 71, State regulations, burial ground requirements and other requirements governing the disposal of radioactive waste.

### 1.34 PROTECTION LOGIC CHANNEL

A PROTECTION LOGIC CHANNEL shall be an arrangement of relays, contacts or other components which operate in response to INSTRUMENT CHANNEL outputs to produce a decision output. The decision output is the initiation of a protective action signal. At the system level, the decision output is the operation of a sufficient number of ACTUATION DEVICES and the associated ACTUATED EQUIPMENT as required to place or restore the Nuclear Steam Supply System to a design safe state. The channel is deemed to include the ACTUATION DEVICES.

## 1.0 DEFINITIONS

### 1.35 PROTECTION SYSTEM

The PROTECTION SYSTEM shall consist of both the Reactor Protection System and the Engineered Safeguards System. The PROTECTION SYSTEM encompasses all electric and mechanical devices and circuitry (from sensors through ACTUATION DEVICES) which are required to operate in order to place or restore the Nuclear Steam Supply System to a design safe state.

### 1.36 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.

### 1.37 QUADRANT POWER TILT RATIO

QUADRANT POWER TILT RATIO shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of lower excore detector calibrated outputs, whichever is greater.

### 1.38 RATED THERMAL POWER

RATED THERMAL POWER shall be a total steady state reactor core heat transfer rate to the reactor coolant of 3250 MWt.

### 1.39 REACTOR PRESSURE

The REACTOR PRESSURE shall be the pressure in the steam space of the pressurizer.

### 1.40 REFUELING CYCLE OR OUTAGE

When REFUELING CYCLE or OUTAGE is used to designate a surveillance interval, the surveillance shall be performed at least once every 18 months as allowed by general requirement 4.0.2.

### 1.41 REPORTABLE EVENT

A REPORTABLE EVENT shall be any of those conditions specified in Specification 6.6.2 or Section 50.73 of 10 CFR Part 50.

### 1.42 SHUTDOWN MARGIN

SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all control and shutdown banks are fully inserted, except for the single rod cluster assembly of highest reactivity worth which is assumed to be fully withdrawn.

### 1.43 SITE BOUNDARY

The SITE BOUNDARY shall be that line beyond which the land is not owned, leased or otherwise controlled by the licensee.

### 1.44 DELETED



LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
<p data-bbox="110 166 832 199">3.3.2 PRESSURIZATION AND SYSTEM INTEGRITY</p> <p data-bbox="263 232 644 265">A. Heatup and Cooldown</p> <p data-bbox="334 299 998 422">RCS Pressure, RCS Temperature, and RCS heatup and cooldown rates shall be maintained within the limits specified in the PTLR.</p> <p data-bbox="110 455 612 488"><u>APPLICABILITY:</u> At all times.</p> <p data-bbox="110 522 1034 976"><u>ACTION:</u> With any of the above limits exceeded, restore the temperature and/or pressure to within the limit within 30 minutes; perform an engineering evaluation to determine the effects of the out of limit condition on the structural integrity of the Reactor Coolant System; determine that the Reactor Coolant System remains acceptable for continued operation or be in at least MODE 3 within the next 6 hours and reduce RCS <math>T_{AVG}</math> and pressure to less than 200°F and 500 psig, respectively, within the following 30 hours.</p>	<p data-bbox="1136 166 1847 199">4.3.2 PRESSURIZATION AND SYSTEM INTEGRITY</p> <p data-bbox="1278 232 2013 422">A. The reactor coolant temperature and pressure shall be determined to be within the limits at least once per 30 minutes during system heatup, cooldown, and inservice leak and hydrostatic testing operations.</p>



LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
3.3.2 (Continued)	4.3.2
B. Not Applicable	B. Not Applicable
C. The secondary side of the steam generator must not be pressurized above 200 psig if the temperature of the primary and secondary coolant is below 70°F.	C. Not Applicable
D. The pressurizer heatup rate shall not exceed 100°F/hr and the pressurizer cooldown rate not exceed 200°F/hr. The spray shall not be used if the temperature difference between the pressurizer and the spray fluid is greater than 320°F.	D. Not Applicable
E. Hydrostatic Testing	E. Not Applicable
1. System inservice leak and hydrotests shall be performed in accordance with the requirements of ASME Boiler and Pressure Vessel Code, Section XI and applicable addenda; except as stated in Specification 4.3.4.C.1.	

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
<p>3.3.2.G. Low Temperature Overpressure Protection</p> <ol style="list-style-type: none"> <li>1. At least one of the following low temperature overpressure protection methods shall be available:               <ol style="list-style-type: none"> <li>a. Two power operated relief valves (PORVs) shall be OPERABLE with lift settings within the limits specified in the PTLR, or</li> </ol> </li> </ol>	<p>4.3.2.G. Low Temperature Overpressure Protection</p> <ol style="list-style-type: none"> <li>1. Surveillance and testing of the low temperature overpressure protection methods shall be performed as follows:               <ol style="list-style-type: none"> <li>a. Each PORV shall be demonstrated as OPERABLE by:                   <ol style="list-style-type: none"> <li>1. Performance of a CHANNEL FUNCTIONAL TEST, but excluding valve operation, on the PORV actuation channel within 31 days prior to entering a condition in which the PORV is required OPERABLE, and at least once per 31 days thereafter when the PORV is required OPERABLE.</li> <li>2. Verifying the PORV backup air supply is charged, within 31 days prior to entering a condition in which the PORV is required OPERABLE, and at least once per 31 days thereafter when the PORV is required OPERABLE.</li> <li>3. Performance of a CHANNEL CALIBRATION on the PORV actuation channel at least once per refueling outage.</li> </ol> </li> </ol> </li> </ol>

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
<p>3.3.2.G. Low Temperature Overpressure Protection (Continued)</p> <p>b. The Reactor Coolant System (RCS) pressure shall be less than 100 psig, and the pressurizer level less than 25%, or</p> <p>c. The RCS is depressurized and one PORV and it's isolation valve are open.</p> <p>2. A maximum of one* charging pump, aligned for injection into the RCS, and no accumulators and no safety injection pumps shall be OPERABLE.</p> <p>* For short durations of time during pump switchover, two charging pumps may be OPERABLE for the purpose of maintaining seal injection flow to the reactor coolant pumps.</p>	<p>4.3.2.G. Low Temperature Overpressure Protection (Continued)</p> <p>4. Verifying each PORV's isolation valve is open at least once per shift when this method is being used for low temperature overpressure protection.</p> <p>5. Testing pursuant to Specification 4.0.5.</p> <p>b. The RCS pressure shall be verified to be less than 100 psig, and pressurizer level shall be verified to be less than 25% at least once per shift, when this method is being used for low temperature overpressure protection.</p> <p>c. Verifying one PORV and it's isolation valve are open at least once per shift, when this method is being used for low temperature overpressure protection.</p> <p>2. At least two of the three charging pumps,* and all accumulators, and all safety injection pumps, shall be verified to be incapable of injecting into the RCS prior to entering a condition in which they are required to be inoperable, and at least once per shift thereafter while they are required to be inoperable.</p>

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
<p>3.3.2.G. Low Temperature Overpressure Protection (Continued)</p> <p>3. When starting a reactor coolant pump, when no reactor coolant pumps are running, the temperature in the steam generator secondary side in any unisolated RCS loop shall be less than 50°F higher than the RCS temperature.</p> <p><u>APPLICABILITY:</u> Mode 4 when the temperature of any RCS cold leg is less than or equal to the LTOP erasable temperature specified in the PTLR, MODE 5 and MODE 6 with the reactor vessel head on.</p> <p><u>ACTION:</u></p> <ul style="list-style-type: none"> <li>a. With one PORV inoperable in MODE 4, restore the inoperable PORV to OPERABLE status within 7 days, or within the next 24 hours either; <ul style="list-style-type: none"> <li>1. Depressurize the RCS to less than 100 psig and lower pressurizer level to less than 25%, or</li> <li>2. Depressurize the RCS and open at least one PORV and its block valve.</li> </ul> </li> <li>b. With one PORV inoperable in MODES 5 or 6, restore the inoperable PORV to operable status within 24 hours, or within the next 24 hours either; <ul style="list-style-type: none"> <li>1. Depressurize the RCS to less than 100 psig and lower pressurizer level to less than 25%, or</li> </ul> </li> </ul>	<p>4.3.2.G. Low Temperature Overpressure Protection (Continued)</p> <p>3. Not applicable.</p> <ul style="list-style-type: none"> <li>b. With one PORV inoperable in MODES 5 or 6, restore the inoperable PORV to operable status within 24 hours, or within the next 24 hours either; <ul style="list-style-type: none"> <li>1. Depressureize the RCS to less than 100 psig and lower pressurizer level to less than 25%, or</li> <li>2. Depressurize the RCS and open at least one PORV and its block valve.</li> </ul> </li> </ul>

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
<p>3.3.2.G. Low Temperature Overpressure Protection (Continued)</p> <ul style="list-style-type: none"> <li>2. Depressurize the RCS and open at least one PORV and its block valve.</li> <li>c. With both PORV's inoperable, within the next 24 hours either;               <ul style="list-style-type: none"> <li>1. Depressurize the RCS to less than 100 psig and lower pressurizer level to less than 25%, or</li> <li>2. Depressurize the RCS and open at least one PORV and its block valve.</li> </ul> </li> <li>d. In the event that a PORV is used to mitigate an RCS pressure transient, a SPECIAL REPORT shall be prepared and submitted to the Commission pursuant to Specification 6.6.3.B. The report shall include the following information:               <ul style="list-style-type: none"> <li>1. A description of the circumstances initiating the transient, and</li> <li>2. The effect of the PORV's on the transient, and</li> <li>3. The corrective action necessary to prevent reoccurrence.</li> </ul> </li> <li>e. The provisions of Specification 3.0.4 are not applicable.</li> </ul>	<p>4.3.2.G. Low Temperature Overpressure Protection (Continued)</p>

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## Bases

### 3.3.2 & 4.3.2 FRACTURE TOUGHNESS PROPERTIES

All components of the RCS are designed to withstand effects of cyclic loads due to system pressure and temperature changes. These loads are introduced by startup (heatup) and shutdown (cooldown) operations, power transients, and reactor trips. This LCO limits the pressure and temperature changes during RCS heatup and cooldown, within the design assumptions and the stress limits for cyclic operation.

The PTLR contains P/T limit curves for heatup, cooldown, inservice leak and hydrostatic (ISLH) testing, and data for the maximum rate of change of reactor coolant temperature.

Each P/T limit curve defines an acceptable region for normal operation which has been determined in accordance with Reference 2. The usual use of the curves is during heatup or cooldown maneuvering, when pressure and temperature indications are monitored and compared to the applicable curve to determine that operation is within the allowable region.

The LCO establishes operating limits that provide a margin to brittle failure of the reactor vessel and piping of the reactor coolant pressure boundary (RCPB). The vessel is the component most subject to brittle failure, and is as such, the limiting component for which the limitations are based. The limits do not apply to the pressurizer because of its different design characteristics and operating functions. Pressurizer operational limitations are addressed separately within the Technical Specifications.

10 CFR 50, Appendix G, requires the establishment of P/T limits for specific material fracture toughness requirements of the RCPB materials. 10 CFR 50, Appendix G requires an adequate margin to brittle failure during normal operation, anticipated operational occurrences, and system hydrostatic tests. It mandates the use of the American Society of Mechanical Engineers (ASME) Code, Section III, Appendix G.

The neutron embrittlement effect on the material toughness is reflected by increasing the nil ductility reference temperature ( $RT_{NDT}$ ) as exposure to neutron fluence increases.

The actual shift in the  $RT_{NDT}$  of the vessel material will be established periodically by removing and evaluating the irradiated reactor vessel material specimens, in accordance with ASTM E 185 and Appendix H of 10 CFR 50. The operating P/T limit curves will be adjusted, as necessary, based on the evaluation findings and recommendations of Regulatory Guide 1.99.

The P/T limit curves are composite curves established by superimposing limits derived from stress analyses of those portions of the reactor vessel that are the most restrictive. At any specific pressure, temperature, and temperature rate of change, one location within the reactor vessel will dictate the most restrictive limit.

The heatup curve represents a different set of restrictions than the cooldown curve because the directions of the thermal gradients through the vessel wall are reversed. The thermal gradient reversal alters the location of the tensile stress between the outer and inner walls during heatup and cooldown, respectively.

The criticality limit curve includes the requirement that it be  $\geq 40^{\circ}\text{F}$  above the heatup curve or the cooldown curve, and not less than the minimum permissible temperature for ISLH testing. However, the criticality curve is not operationally limiting; a more restrictive limit exists in LCO 3.2.1.C, "Reactivity Control & Power Distribution."

The consequence of violating the LCO limits is that the RCS has been operated under conditions that can result in brittle failure of the RCPB, possibly leading to a nonisolable leak or loss of coolant accident. In the event these limits are exceeded, an evaluation must be performed to determine the effect on the structural integrity of the RCPB components. The ASME Code, Section XI, Appendix E, provides a recommended methodology for evaluating an operating event that causes an excursion outside the limits.

The P/T limits are not derived from Design Basis Accident (DBA) analyses. They are prescribed during normal operation to avoid encountering pressure, temperature, and temperature rate of change conditions that might cause undetected flaws to propagate and cause nonductile failure of the RCPB, which is an unanalyzed condition. Reference 2 establishes the methodology for determining the P/T limits.

Verification that operation is within the PTLR limits is required every 30 minutes when RCS pressure and temperature conditions are undergoing planned changes. This Frequency is considered reasonable in view of the control room indication available to monitor RCS status. Also, since temperature rate of change limits are specified in hourly increments, 30 minutes permits assessment and correction for minor deviations within a reasonable time.

#### PRESSURIZER LIMITS

Although the pressurizer operates in temperature ranges above those for which there is reason for concern of nonductile failure, operating limits are provided to assure compatibility of operation with the fatigue analysis performed in accordance with the ASME Code requirements.

#### INADVERTENT SAFETY INJECTION

In the event of an inadvertent safety injection actuation, the affected reactor will trip immediately, placing the reactor in the hot shutdown condition. After 60 seconds safety injection may be reset and injection terminated as required. An inspection of the primary system while at hot shutdown will prevent possible degradations in the primary system from undergoing further immediate thermal shock imposed during a cooldown. If degradations in the primary system are discovered, an orderly controlled cooldown will be planned to minimize the effects of thermal shock on these degradations on the affected unit.

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## REFERENCES

1. ASME Boiler and Pressure Vessel Code, Section III, 1976 Summer Addenda.
2. WCAP-14040-NP-A, "Methodology Used To Develop Cold Overpressure Mitigating System Setpoints and RCS Heatup and Cooldown Limit Curves," January 1996.

bases: Low Temperature Overpressure Protection

- 3.2.2.G There are 3 means of protecting the RCS from overpressurization by a pressure transient at low temperatures.  
& The first type of protection is ensured by the operation and surveillance of the power operated relief valves  
4.2.2.G with lift settings within the limits specified in the PTLR. A single power operated relief valve (PORV) will relieve a pressure transient caused by 1) a mass addition into a solid RCS from a charging pump or 2) a heat input based on a reactor coolant pump being started in an idle RCS and circulating water into a steam generator whose temperature is 50°F greater than the RCS temperature. (1)

The second means of protection is ensured by a PORV being open. It will have the same relieving capabilities as mentioned above.

The third means of protection limits the pressurizer level to 25% and the pressurizer pressure to 100 psig. A pressure transient caused by the inadvertent mass addition from a charging pump running for 10 minutes will be relieved by the large gas volume and low pressure present in the pressurizer as mentioned above. Maintaining the pressurizer level below 25% will also make the hi pressurizer level deviation alarm available to the operator during a mass addition accident.

In the event that a single PORV becomes inoperable in MODE 4, the repair period of 7 days is based on allowing sufficient time to effect repairs using safe and proper procedures and upon the operability of the redundant PORV. Industry experience has shown that the potential for an overpressure transient is greatest in MODE 5 or MODE 6 with the reactor vessel head on. Therefore, a reduced repair period of 24 hours is specified in these MODES.

In the event that both PORV's become inoperable, the condition is more serious than for a single inoperable PORV, therefore every attempt should be made to depressurize the RCS in a controlled manner as rapidly as possible. The 24 hour time period to reach the restrictive conditions in the pressurizer represents a reasonable amount of time to meet these conditions under an expedited circumstance.

This LCO has been provided a LCO 3.0.4 exception. This exception is justified because with an inoperable PORV it may be necessary to enter the Applicability of this LCO in order to achieve the conditions necessary to repair the inoperable PORV.

The Low Temperature Overpressure Protection System must be tested on a periodic bases consistent with the need for its use. A CHANNEL FUNCTIONAL TEST shall be performed prior to enabling the overpressure protection system during cooldown and startup.

The limitations and surveillance requirements on the ECCS equipment provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV or the limiting conditions placed on the pressurizer.

The restrictions for startup of a RCP limits the heat input accident to within the relieving capabilities of a single PORV.

- (1) Pressure Mitigating Systems Transient Analysis Results July 1977 Westinghouse Owners Group on RCS Overpressurization.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
3.3.4	4.3.4.D. Not Applicable

6.6.1.F.2. (Continued)

- 11) NFSR-0033, Commonwealth Edison Document, "VIPRE/WRB-1 DNBR Thermal Limit for Westinghouse OFA Fuel," dated October 14, 1988, by James C. Boerger, et al., approved by the NRC SER dated February 13, 1990. (Thermal Hydraulic DNBR Safety Limit.)
3. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met.
4. The CORE OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements thereto, shall be provided upon issuance, for each reload cycle, to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.

6.6.1.G

Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

- a. RCS pressure and temperature limits for heatup, cooldown, low temperature operation, criticality, and hydrostatic testing, as well as heatup and cooldown rates shall be established and documented in the PTLR for the following:  
  
LCO 3.3.2.A, "Heatup and Cooldown"; and  
LCO 3.3.2.G, "Low Temperature Overpressure Protection".
- b. The analytical methods used to determine the RCS pressure and temperature limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents: NRC letter dated October 16, 1995, "Acceptance for Referencing of Topical Report WCAP-14040, Revision 1, 'Methodology used to Develop Cold Overpressure Mitigating System Setpoints and RCS Heatup and Cooldown Limit Curve,'" and safety evaluation dated December 20, 1996.
- c. The PTLR shall be provided to the NRC upon issuance for each reactor vessel fluency period and for any revision or supplement thereto.