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 FACIL: 50-315 Donald C. Cook Nuclear Power Plant -1, Indiana & Mich 05000315  
 50-316 Donald C. Cook Nuclear Power Plant-2, Indiana & Mich 05000316  
 AUTH. NAME AUTHOR AFFILIATION  
 TILLINGHAST, J. Indiana & Michigan Power Co.  
 RECIP. NAME RECIPIENT AFFILIATION  
 DENTON, H.R. Office of Nuclear Reactor Regulation

SUBJECT: Forwards Overpressure Protection System Tech Specs for each Unit of facility & check for 4,400.00. Believes these specs could potentially require addl reporting w/o improving high safety level in any way.

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 TITLE: REACTOR VESSEL OVERPRESSURIZATION DIST. PER G. ZECH - 10

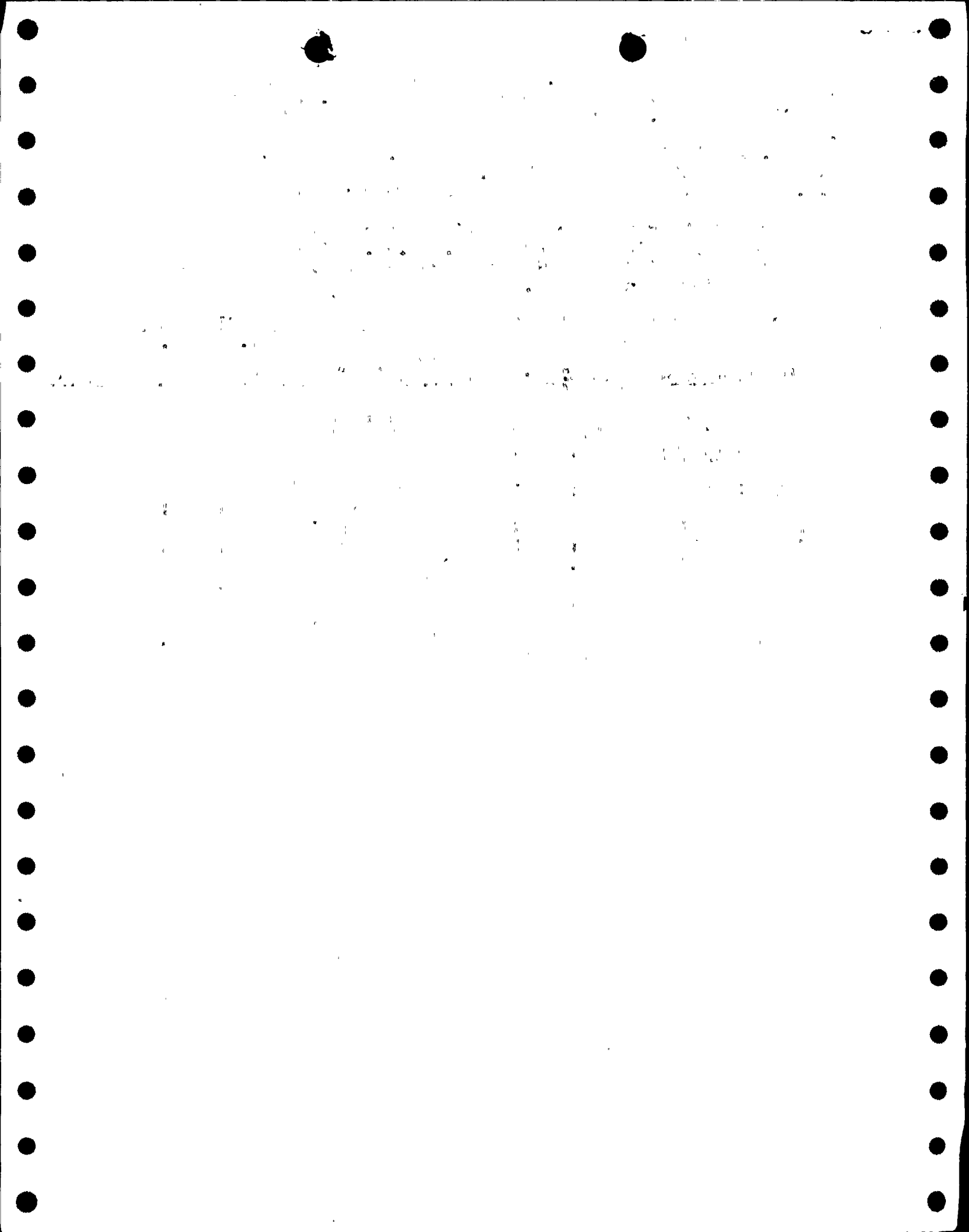
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|           | 19 REAC SFTY BR | 1      | 1    | 20 PLANT SYS BR | 1      | 1    |
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# INDIANA & MICHIGAN POWER COMPANY

P. O. BOX 18  
BOWLING GREEN STATION  
NEW YORK, N. Y. 10004

January 23, 1979  
AEP:NRC:00083A

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2  
Docket Nos. 50-315 and 50-316  
License DPR Nos. 58 and 74

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. Denton:

This letter is in response to Mr. A. Schwencer's letter of August 28, 1978 wherein we were requested to submit Overpressure Protection System Technical Specifications for the Donald C. Cook Nuclear Plant Units 1 and 2. The attachments to this letter contain a complete set of proposed Technical Specifications for each unit of the Cook Plant.

The model Technical Specifications contained in Mr. Schwencer's letter were used as guidance in the preparation of these Technical Specifications. However, our proposed Overpressure Protection System Technical Specifications are written in a revised format from that contained in Mr. Schwencer's letter. This format better reflects the Overpressure Protection Systems that are available in the Cook Plant. This is accomplished by the requirements to have certain equipment inoperable, restrictions on the startup of Reactor Coolant Pumps and the installed Overpressurization Mitigating System in accordance with our previous submittals on this issue. Please note that no revisions to our current Specifications 3/4.1.2.3, 3/4.5.3 and 3/4.4.1 are necessary when the overpressure protection requirements are written in our proposed format.

We wish to point out that sufficient operating procedures are currently in use to alleviate the operability and surveillance concerns in Mr. Schwencer's letter. The Overpressure Protection System Technical Specifications could potentially require additional reporting while in no way improving the already high level of safety at the Cook Plant.

REGULATORY DOCKET FILE COPY

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Mr. Harold R. Denton

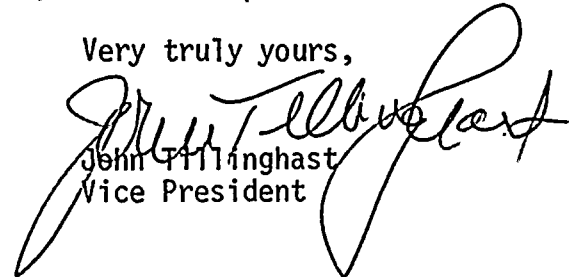
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AEP:NRC:00083A  
January 23, 1979

The Overpressure Protection System Technical Specifications have been reviewed by the PNSRC and the required membership of the AEPSC NSDRC. The results of these reviews indicate that the subject Technical Specifications will not adversely affect the health and safety of the general public.

As indicated in Mr. Schwencer's letter, this is a Class III Amendment per the provisions of 10 CFR 170.22 and requires a payment of \$4,000.00 for Unit 1 of the Cook Plant, and a payment of \$400.00 (Class I Amendment) for Unit 2. A check for \$4,400.00 accompanies this submittal.

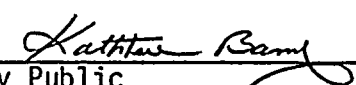
Very truly yours,



John Pillinghast  
Vice President

JT:em

Sworn and subscribed to before me  
this 23<sup>rd</sup> day of January, 1979 in  
New York County, New York

  
Notary Public

cc: (attached)

KATHLEEN BARRY  
NOTARY PUBLIC, State of New York  
No. 41-4606792  
Qualified in Queens County  
Certificate filed in New York County  
Commission Expires March 30, 1979

Mr. Harold R. Denton

-3-

AEP:NRC:00083A

cc: R. C. Callen  
P. W. Steketee  
G. Charnoff  
R. Walsh  
R. W. Jurgensen  
D. V. Shaller - Bridgman  
R. J. Vollen

## OVERPRESSURE PROTECTION SYSTEMS

### 3/4.4.11 REACTOR COOLANT LOOPS

#### NORMAL OPERATION

#### LIMITING CONDITION FOR OPERATION

---

3.4.11 The reactor coolant pumps shall not be started whenever the RCS cold leg temperature is  $\leq 188^{\circ}\text{F}$  unless:

- a) Each steam generator shell side temperature is not more than  $50^{\circ}\text{F}$  above the corresponding RCS cold leg temperature, or
- b) The RCS is not in a water solid condition

APPLICABILITY: MODE 5

#### SURVEILLANCE REQUIREMENTS

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4.4.11. Prior to the start of a reactor coolant pump in an idle loop the temperature of the steam generator shell side shall be verified to be not more than  $50^{\circ}\text{F}$  above the temperature of the RCS cold leg.

## OVERPRESSURE PROTECTION SYSTEMS

### 3/4.4.12 OVERPRESSURIZATION MITIGATING SYSTEM

#### LIMITING CONDITION FOR OPERATION

---

3.4.12 At least one of the following overpressurization mitigating systems shall be OPERABLE:

- a) Two power operated relief valves (PORVs) with an activation setpoint of  $\leq 435$  psig, or
- b) The RHR system safety valve with a lift setting of  $\leq 450$  psig, or
- c) A reactor coolant system vent  $\geq 2$  square inches

APPLICABILITY: WHEN THE RCS IS WATER SOLID AND THE TEMPERATURE OF ONE OR MORE OF THE RCS COLD LEGS IS  $\leq 188^{\circ}\text{F}$ , EXCEPT DURING MODE 6

#### ACTION:

- a) With one PORV inoperable and the RHR Safety Valve not available either restore the inoperable PORV to OPERABLE status within 7 days or depressurize and vent the RCS through a 2 square inch vent within the next 8 hours; maintain the RCS in a vented condition until both PORVs have been restored to OPERABLE status.
- b) With both PORVs inoperable and the RHR Safety Valve not available depressurize and vent the RCS through a 2 square inch vent within 8 hours; maintain the RCS in a vented condition until both PORVs have been restored to OPERABLE status.
- c) In the event either the PORVs or the RHR Safety Valve or the RCS vent are used to mitigate a RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORVs, RHR Safety Valve, or vent on the transient and any corrective action necessary to prevent recurrence.
- d) The provisions of Specification 3.0.4 are not applicable.



## REACTOR COOLANT SYSTEM

### SURVEILLANCE REQUIREMENTS

---

4.4.12.1 Each PORV shall be demonstrated OPERABLE by:

- a) Performance of a CHANNEL FUNCTIONAL TEST on the PORV actuation channel, but excluding valve operation, 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.
- b) Performance of a CHANNEL CALIBRATION on the PORV actuation channel at least once per 18 months.
- c) Verifying the PORV isolation valve is open at least once per 72 hours when the PORV is being used for over-pressurization protection.
- d) No additional Surveillance Requirements other than those required by Specification 4.0.5.

4.4.12.2

- a) The RHR Safety Valve shall be demonstrated OPERABLE at least once per 12 hours by verifying that the RHR system suction is aligned to the RCS loop with the valves in the flow path open.
- b) No additional Surveillance Requirements other than those required by Specification 4.0.5.

4.4.12.3 The RCS vent shall be verified to be open at least once per 12 hours\* when the vent is being used for overpressure protection.

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\* Except when the vent pathway is provided with a valve which is locked, sealed, or otherwise secured in the open position, then verify these valves open at least once per 31 days.

## OVERPRESSURE PROTECTION SYSTEMS

ECCS SUBSYSTEMS      T Avg. < 200°F

### LIMITING CONDITION FOR OPERATION

---

3.5.6 Whenever the temperature of one or more of the RCS cold legs is  $\leq 188^{\circ}\text{F}$ , except where Surveillance Requirements prescribed by other Specifications are mandated, the following conditions shall apply:

- a) A maximum of one charging pump shall be OPERABLE.
- b) Both safety injection pumps shall be INOPERABLE.

APPLICABILITY: MODE 5 DURING WATER SOLID OPERATION

### SURVEILLANCE REQUIREMENTS

---

4.5.6 At least once per 12 hours when one of the RCS cold legs is  $\leq 188^{\circ}\text{F}$  demonstrate that all charging pumps and safety injection pumps, except those otherwise required to be operable, are INOPERABLE by verifying that the motor circuit breakers have been disconnected from their electrical power supply circuit.

## OVERPRESSURE PROTECTION SYSTEMS

### BASES

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#### 3/4.5.6 ECCS SUBSYSTEMS - $T_{avg} < 200^{\circ}F$

The limitation for a maximum of one charging pump to be operable, both safety injection pumps to be inoperable and the Surveillance Requirements to demonstrate the safety injection pumps and the other charging pumps to be inoperable below  $188^{\circ}F$  during water solid operation, provides assurance that a mass addition pressure transient can be relieved by the operation of single PORV.

#### 3/4.4.11 REACTOR COOLANT LOOPS

The limitation of a maximum  $50^{\circ}F$  temperature difference between the Steam Generator shell side and the RCS cold legs during water solid operation upon startup of a reactor coolant pump in an idle loop provides assurance that a heat addition pressure transient can be relieved by the operation of a single PORV.

#### 3/4.4.12 OVERPRESSURIZATION MITIGATING SYSTEM

The OPERABILITY of two PORVs, the RHR Safety Valve, or an RCS vent opening of 2 square inches ensures that the RCS will be protected from pressure transients which could exceed the limits of Appendix G to 10 CFR Part 50 when one or more of the RCS cold legs are  $\leq 188^{\circ}F$ . Each PORV or RHR Safety Valve has adequate relieving capability to protect the RCS from overpressurization when the transient is limited to either (1) the start of an idle RCS with the secondary water temperature of the steam generator  $\leq 50^{\circ}F$  above the RCS cold leg temperature or (2) the start of a charging pump and its injection into a water solid RCS.

OVERPRESSURE PROTECTION SYSTEMS

3/4.4.11 REACTOR COOLANT LOOPS

NORMAL OPERATION

LIMITING CONDITION FOR OPERATION

---

3.4.11 The reactor coolant pumps shall not be started whenever the RCS cold leg temperature is  $\leq 152^{\circ}\text{F}$  unless:

- a) Each steam generator shell side temperature is not more than  $50^{\circ}\text{F}$  above the corresponding RCS cold leg temperature, or
- b) The RCS is not in a water solid condition

APPLICABILITY: MODE 5

SURVEILLANCE REQUIREMENTS

---

4.4.11 Prior to the start of a reactor coolant pump in an idle loop the temperature of the steam generator shell side shall be verified to be not more than  $50^{\circ}\text{F}$  above the temperature of the RCS cold leg.

## OVERPRESSURE PROTECTION SYSTEMS

### 3/4.4.12 OVERPRESSURIZATION MITIGATING SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.4.12 At least one of the following overpressurization mitigating systems shall be OPERABLE:

- a) Two power operated relief valves (PORVs) with an activation setpoint of  $\leq 435$  psig, or
- b) The RHR system safety valve with a lift setting of  $\leq 450$  psig, or
- c) A reactor coolant system vent  $\geq 2$  square inches

APPLICABILITY: WHEN THE RCS IS WATER SOLID AND THE TEMPERATURE OF ONE OR MORE OF THE RCS COLD LEGS IS  $\leq 152^{\circ}\text{F}$ , EXCEPT DURING MODE 6

#### ACTION:

- a) With one PORV inoperable and the RHR Safety Valve not available either restore the inoperable PORV to OPERABLE status within 7 days or depressurize and vent the RCS through a 2 square inch vent within the next 8 hours; maintain the RCS in a vented condition until both PORVs have been restored to OPERABLE status.
- b) With both PORVs inoperable and the RHR Safety Valve not available depressurize and vent the RCS through a 2 square inch vent within 8 hours; maintain the RCS in a vented condition until both PORVs have been restored to OPERABLE status.
- c) In the event either the PORVs or the RHR Safety Valve or the RCS vent are used to mitigate a RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORVs, RHR Safety Valve, or vent on the transient and any corrective action necessary to prevent recurrence.
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\* Except when the vent pathway is provided with a valve which is locked, sealed, or otherwise secured in the open position, then verify these valves open at least once per 31 days.

## OVERPRESSURE PROTECTION SYSTEMS

ECCS SUBSYSTEMS      T Avg: < 200°F

### LIMITING CONDITION FOR OPERATION

---

3.5.6 Whenever the temperature of one or more of the RCS cold legs is  $\leq 152^\circ\text{F}$ , except where Surveillance Requirements prescribed by other Specifications are mandated, the following conditions shall apply:

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- b) Both safety injection pumps shall be INOPERABLE.

APPLICABILITY:    MODE 5 DURING WATER SOLID OPERATION

### SURVEILLANCE REQUIREMENTS

---

4.5.6 At least once per 12 hours when one of the RCS cold legs is  $\leq 152^\circ\text{F}$  demonstrate that all charging pumps and safety injection pumps, except those otherwise required to be operable, are INOPERABLE by verifying that the motor circuit breakers have been disconnected from their electrical power supply circuit.

## OVERPRESSURE PROTECTION SYSTEMS

### BASES

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The limitation for a maximum of one charging pump to be operable, both safety injection pumps to be inoperable and the Surveillance Requirements to demonstrate the safety injection pumps and the other charging pumps to be inoperable below  $152^{\circ}F$  during water solid operation, provides assurance that a mass addition pressure transient can be relieved by the operation of single PORV.

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