

Bases: Low Temperature Overpressure Protection

- 3.3.2.G There are 3 means of protecting the
RCS from overpressurization by a
4.3.2.G pressure transient at low temperatures
(below 250°F). The first type of
protection is ensured by the operation
and surveillance of the power operated
relief valves with a lift setting of
435 psig. A single power operated re-
lief valve (PORV) will relieve a pres-
sure transient caused by 1) a mass
addition into a solid RCS from a charg-
ing 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 inad-
vertent 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.

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.
The 24 hour time period to reach the
restrictive conditions in the pressurizer
provides sufficient time to meet these
conditions.

The OMS must be treated on a periodic basis 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. This test shall be
repeated monthly when the PORVs are required to be operable.
The channel functional test shall include verification of the
backup air supply.

Operability of each low temperature over pressure protection
channel requires the control switch to be in the proper
position, the pressure point set, the PORV isolation valves
open, instrument and solenoid power on, and the PORV backup
air supply changed.

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.

6.6.3.c Special Reports

Reports on the following areas shall be as indicated:

<u>AREA</u>	<u>SUBMITTAL DATE</u>
a. Primary Coolant Leakage	Initial report within one year of initial criticality; 5 years after commercial service.
b. In-Service Inspection Development	First in-service inspection period after initial full power operation.
c. In-Service Inspection Evaluation	The requirements of Section II ASME Boiler Code (IS-620).
d. Loose parts monitoring program	On same date as in-service inspection report.
e. Containment Building Structural Testing Report	Within 90 days following completion of each test.
Q	
f. Lake Michigan Continuing Lake Study Projects No. 1, 6, 9, 10, 11, 12 ***	Within 60 days following the end of each 6 month routine operating report period. Each report shall contain tabular and graphical information, analysis and interpretation, of information obtained pursuant to each project.
g. Waukegan Memorial Airport Expansion Plans	The expansion plans and status of such plans for the Waukegan Memorial Airport will be reported yearly in the Annual Report including FAA #5010 report within 30 days of operation.
h. Overpressure Protection System Operation	
*** Zion Nuclear Power Station Environmental Report , Section 2.3.6, Table 9.	

SEPCIAL REPORTS

Table 6.6.2

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

3.3 2. Pressurization and System Integrity

4.3 2. Pressurization and System Integrity

A. Heatup and Cooldown

A. Not Applicable

The Reactor Coolant System temperature and pressure (with the exception of the pressurizer) shall be limited in accordance with the limit lines shown in Figures 3.3.2-1 and 3.3.2-2 during heatup, cooldown and inservice leak and hydrostatic testing.

1. Allowable combinations of pressure and temperature for specified temperature change rates are below and of the right of the limit lines shown. Limit lines for cooldown rates between those presented may be obtained by interpolation.
2. Figures 3.3.2-1 and 3.3.2-2 define limits to assure prevention of non-ductile failure only. For normal operation other inherent plant characteristics, e.g., pump heat addition and pressurizer heater capacity may limit the heatup and cooldown rates that can be achieved over certain pressure-temperature ranges.
3. The Reactor Coolant System shall be limited to a maximum temperature change of 10°F/hr during inservice

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

- 3.3.2. A3. (Continued)
- leak and hydrostatic testing operations above the heatup and cooldown limit curves.
- B. The limit lines shown in Figures 3.3.2-1 and 3.3.2-2 shall be recalculated periodically as required, based on results from the material surveillance program.
- C. The secondary side of the steam generator must be pressurized above 200 psig if the temperature of the vessel is below 70°F.
- 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.
- E. Hydrostatic Testing
1. System inservice leak and hydrotests shall be performed in accordance with the requirements of ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition, up to and including Summer 1975 Addendum.