

3.6 CONTAINMENT SYSTEM

Applicability

Applies to the integrity of reactor containment.

Objective

To define the operating status of the reactor containment for plant operation.

Specification

3.6.1 Containment Integrity

- a. The containment integrity (as defined in 1.7) shall not be violated unless the reactor is in the cold shutdown condition.
- b. The containment integrity shall not be violated when the reactor vessel head is removed unless a shutdown margin greater than 10% $\Delta k/k$ is constantly maintained.
- c. Positive reactivity changes shall not be made by rod drive motion when the containment integrity is not intact except during any one of the following evolutions:
 1. rod drop timing test
 2. rod drive mechanism timing test
 3. control rod exercise test
 4. shutdown banks fully withdrawn and control banks withdrawn to ≤ 5 steps.

During any of the aforementioned evolutions the shutdown margin shall be maintained $\geq 1\% \Delta k/k$.

- d. Positive reactivity changes shall not be made by boron dilution when the containment integrity is not intact unless the shutdown margin is maintained $\geq 1\% \Delta k/k$.

3.6.2 Internal Pressure

If the internal pressure exceeds 1 psig or the internal vacuum exceeds 1.0 psig, the condition shall be corrected within eight (8) hours or the operator shall start to place the reactor in the hot shutdown condition utilizing normal operating procedures.

3.6.3 Containment Automatic Isolation Trip Valves

The following exceptions apply only to automatic containment isolation valves required to be closed during accident conditions and which are either redundant or installed in a line which is part of a closed system within containment.

With one or more of the automatic containment isolation trip valves inoperable, either:

- a. Restore the inoperable valve(s) to operable status within 4 hours, or
- b. Isolate the affected penetration(s) within 4 hours by use of a deactivated automatic valve(s) secured in the isolation position(s), or
- c. Isolate the affected penetration(s) within 4 hours by use of a closed manual valve(s) or blind flange(s), or
- d. Be in cold shutdown within the next 36 hours.

Basis

The Reactor Coolant System conditions of cold shutdown assure that no steam will be formed and hence there would be no pressure buildup in the containment if the Reactor Coolant System ruptures.

The shutdown margins are selected based on the type of activities that are being carried out. The 10% $\Delta k/k$ shutdown margin during refueling precludes criticality, even though fuel is being moved. When the reactor head is not to be removed, the specified cold shutdown margin of 1% $\Delta k/k$ precludes criticality.

Regarding internal pressure limitations, the containment design pressure of 42 psig would not be exceeded if the internal pressure before a major loss-of-coolant accident were as much as 2 psig.⁽¹⁾ The containment is designed to withstand an internal vacuum of 2.0 psig.⁽²⁾

References

- (1) FSAR Section 6.2.1
- (2) FSAR Section 3.8.1.3