

## CONTAINMENT SYSTEMS

### SURVEILLANCE REQUIREMENTS

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4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

- a. After each opening, except when the air lock is being used for multiple entries, then at least once per 72 hours, by verifying seal leakage less than or equal to  $0.01 L_a$  when the volume between the door seals is pressurized to greater than or equal to 6 psig.
- b. By conducting an overall air lock leakage test at not less than  $P_a$  (12 psig) and by verifying the overall air lock leakage rate is within its limit:
  1. At least once per six months, and
  2. Prior to establishing CONTAINMENT INTEGRITY if opened when CONTAINMENT INTEGRITY was not required when maintenance has been performed on the air lock that could affect the air lock sealing capability.\*
- c. At least once per 6 months by verifying that only one door in each air lock can be opened at a time.

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#The provisions of Specification 4.0.2 are not applicable.

\*Exemption to Appendix "J" of 10 CFR 50.

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ENCLOSURE 2

JUSTIFICATION FOR PROPOSED  
TECHNICAL SPECIFICATIONS

Reason for Change

This surveillance requirement is presently being satisfied by a pressure decay test over a 15 minute period, as required by SR 4.6.1.3.a. This change would allow an airflow rotometer or mass flowmeter test and is required in order to: (1) upgrade the accuracy of the testing, (2) meet ALARA considerations, (3) reduce unnecessary manpower expenditures, and (4) remove nonconservatisms from the test method.

Justification for Change

This change is justified based on the following:

1. Due to the small volume in the door seal, an acceptable leakrate is achieved in the pressure decay test if the pressure decays from 6.4 psig to 0 psig in five or more seconds (contrary to the 15-minute requirement). Leakrate accuracy is increased by performing an airflow rotometer test which removes uncertainties and nonconservatisms associated with system volume (tubing and gauge connections, seal compressibility), temperature changes, and reduced leakrate due to decaying pressure. The effect of system volume and reduced leakrate due to decaying pressure is illustrated in the attached table.
2. Presently, individuals may be contained inside primary containment for up to 15 minutes during conduct of the test. A rotometer test or mass flowtest may be conducted in approximately one minute and significantly reduce radiation exposure and manpower expenditures of both the tester and individuals contained inside containment. This test is performed on eight door seals every Monday, Wednesday, and Friday.
3. The attached table provides a comparison of test data from airflow-rotometer tests and pressure-decay tests. The data indicates that the rotometer test is the most conservative.

Attached is the significant hazards consideration determination which states that no significant hazards considerations are involved.

COMPARISON OF TEST DATA FOR PRESSURE DECAY  
AND ROTOMETER LEAKRATE TESTS  
ON SEQUOYAH UNIT 2 AIRLOCKS

Item Tested	Leakrate SCFH		Airflow Rotometer Test
	Pressure-Decay Test	Corrected Pressure- Decay Test*	
Lower airlock inner door seal	0.0005	0.0008	0.0254
Lower airlock outer door seal	0.0092	0.0151	0.1752
Upper airlock inner door seal	0.0018	0.0029	0.0305
Upper airlock outer door seal	0.0013	0.0021	0.0305

\*Corrected for volume of connecting tubing and gauge.

## SIGNIFICANT HAZARDS CONSIDERATIONS

1. Is the probability of an occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report increase? No.

The leakrate of the airlock door seals will be verified to be less than, or equal to, 0.01La (2.37 SCFH) using an acceptable test method in accordance with existing procedures (SI-159.2) at the required frequency.

2. Is the possibility for an accident or malfunction of a different type than evaluated previously in the safety analysis report created? No

A different type of accident or malfunction is not created since the leakrate of the airlock door seal is verified to be less than or equal to 0.01La.

3. Is the margin of safety as defined in the basis of any technical specification reduced? No

The margin of safety is not reduced since the leakrate limit is satisfied at the same frequency.