

PS-85/07

SUBJECT: Technical Specification Surveillance Requirement 4.6.2.3.d.1.a;
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DISCUSSION: The proposed change will delete the drywell air lock seal pressure instrumentation 31 day channel functional test from the subject technical specification. This surveillance requirement cannot be performed without entering and staying in a high radiation area. The existing 18 month channel calibration which includes a channel functional test and the 6 month overall air lock leakage test remain in the technical specifications.

JUSTIFICATION: The purpose of the inflatable seal pressure instrumentation is to provide a signal to indicating lights which then in turn provide personnel entering one door of the air lock with an indication that the other door is properly sealed. The drywell air lock inflatable seal pressure instrumentation actuates no control room status lights or alarms.

During operation above 5% power, drywell entry is not allowed. The 31 day channel functional test is presently performed on the outer door of the drywell air lock but is not performed on the inner door with the reactor above 5% power. The inner door is declared inoperable when the test cannot be performed with the plant at power. The provisions of Action a of Technical Specification 3/4.6.2.3 allows for continued operation of the plant until performance of the next required overall air lock leakage test provided that the operable air lock door is verified to be locked closed at least once per 31 days.

The only feasible method for performing the 31 day channel functional test on the inner door, while maintaining drywell integrity, would require entry into the drywell air lock, closure of the outer door, and deflation of the inner door seals without opening the inner door. At power operation, the area inside the drywell air lock is usually classified a high radiation area (approximately 225 mRem/hr neutron, 400 mR/hr gamma at 67% power), thus requiring according to 10CFR 20.203 that personnel not be prevented from leaving the area. With the outer drywell air lock door closed during performance of the 31 day channel functional test on the inner door, exit from the air lock is impeded and with failure of the outer door mechanism, a person could be trapped in a high radiation area. This possibility prevents the performance of the 31 day channel functional test when the reactor is at power.

When the inner drywell air lock door is declared inoperable because the 31 day channel functional test has not been performed, this action potentially impacts the successful performance of Surveillance Requirement 4.6.2.3.b for the overall air lock leakage test. With the inner air lock door

declared inoperable, Action a of Technical Specification 3/4.6.2.3 is entered and the operable outer drywell air lock door is locked closed. To perform Surveillance Requirement 4.6.2.3.b, the outer air lock door must be opened thus requiring entry into Action b. If the plant has been operating in Action a for at least 24 hours, the 24 hours allowed in Action b to restore the air lock to operable status has been used and the plant must be in hot shutdown within 12 hours if the overall air lock leakage test is not successfully completed. Since this test can take more than 8 hours to perform, successful completion of the overall air lock leakage test is not assured and plant shutdown is a strong possibility. Deletion of the 31 day channel functional test on the seal pressure instrumentation will remove the requirement to declare the inner door of the drywell air lock inoperable and thus provide an additional 24 hours (as allowed in Action b) to perform the overall air lock leakage test per Surveillance Requirement 4.6.2.3.b.

The drywell air lock inflatable seal pressure instrumentation actuates no control room status lights or alarms, and thus serves no function in warning of drywell integrity violation. However, the performance of other technical specification surveillance requirements such as verifying seal air flask pressure and seal leakage tests help to ensure seal integrity. Under the present technical specifications, the air lock is demonstrated operable within 72 hours after each closing. The overall air lock and seal pneumatic system are leak tested on an appropriate surveillance interval to ensure air lock and seal integrity. In addition, the seal air flask pressure is verified to be greater than or equal to 90 psig at least once per 7 days.

Since drywell entry is not allowed during operation above 5% power, cycling the air lock seals every 31 days serves no useful function and could contribute to seal failure through wear and excessive testing. MP&L believes that the deletion of Technical Specification Surveillance Requirement 4.6.2.3.d.1.a is justified:

- 1) Due to the radiological threat to personnel performing the required surveillance;
- 2) Because the drywell air lock is not used for entry during operation above 5% power;
- 3) Because the overall air lock leakage test is impacted when the inner door is declared inoperable and when the test must be run with the reactor at power.
- 4) Due to the relative inconsequential function served by the drywell air lock inflatable seal pressure instrumentation;

SIGNIFICANT HAZARDS CONSIDERATIONS:

The proposed technical specification change would delete the required drywell seal pressure instrumentation 31 day channel functional test (Surveillance Requirement 4.6.2.3.d.1.a). The proposed change does not involve a significant hazards consideration because operation of Grand Gulf Unit 1 in accordance with this change would not:

- (1) involve a significant increase in the probability or consequences of an accident previously evaluated. The only purpose of the inflatable seal pressure instrumentation is to provide a signal to indicating lights which provide personnel entering one door of the air lock with an indication that the other door is sealed. An interlock exists which prevents the opening of both doors simultaneously. In addition, the drywell air lock inflatable seal pressure instrumentation actuates no control room status lights or alarms, and thus, serves no function in warning of drywell integrity violation. Other technical specification surveillance requirements verify seal air flask pressure and seal leak tests thus helping to ensure seal integrity. Therefore, this change does not increase the probability or consequences of an accident.
- (2) create the possibility of a new or different kind of accident from any previously analyzed. The reduction in testing the seal pressure instrumentation does not create the possibility of a new or different kind of accident since this instrumentation serves no function in the warning or maintaining of drywell integrity. The only function is to provide personnel entering one door indication that the other door is sealed.
- (3) involve a significant reduction in a margin of safety. The seal pressure instrumentation serves no safety related function nor does it actuate any control room status lights/alarms or perform any automatic action. The instrumentation simply provides personnel with an indication of the drywell air lock door status. Therefore, deletion of Technical Specification 4.6.2.3.d.1.a will not reduce the margin of safety as provided by the Technical Specifications.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.6.2.3 Each drywell air lock shall be demonstrated OPERABLE:

- a. Within 72 hours[#] after each closing, except when the air lock is being used for multiple entries, then at least once per 72 hours[#], by verifying seal leakage rate less than or equal to 2 scf per hour when the gap between the door seals is pressurized to P_a , 11.5 psig.
- b. By conducting an overall air lock leakage test at P_a , 11.5 psig and verifying that the overall air lock leakage rate is within its limit:
 1. At least once per 6 months[#],
 2. Prior to establishing DRYWELL INTEGRITY 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.
- d. By verifying each airlock door inflatable seal system OPERABLE by:
 1. Demonstrating each of the two inflatable seal pressure instrumentation channels per airlock door OPERABLE by performance of a:
 - ~~a) CHANNEL FUNCTIONAL TEST at least once per 31 days, and DELETED~~
 - b) CHANNEL CALIBRATION at least once per 18 months, with a low pressure setpoint of ≥ 60 psig.
 2. At least once per 7 days verifying seal air flask pressure to be greater than or equal to 90 psig.
 3. At least once per 18 months, conducting a seal pneumatic system leak test and verifying that system pressure does not decay more than 2 psig from 90 psig within 48 hours.

[#]The provisions of Specification 4.0.2 are not applicable.