

SAFETY EVALUATION FOR THE PROPOSED PERIODIC TESTING  
PERFORMANCE OF DIESEL GENERATORS  
ZION STATION UNIT NOS. 1 AND 2

Introduction and Background

According to Appendix A, item B.6 of the Confirmatory Order issued by the Commission on February 29, 1980 for Zion Station Unit Nos. 1 and 2, the licensee shall perform diesel generator testing as a function of demonstrated reliability in accordance with Regulatory Guide (R.G.) 1.108 and with corresponding changes in the allowable outage time also as a function of demonstrated reliability. Diesel generator starts for the safeguard actuation test (PT-10) and the diesel generator load sequencing test (TSS 15.6.35) were not counted in the previous 100 test data base for determining demonstrated reliability. This was because these tests were run for 20 minutes and did not fulfill the one hour duration requirements as addressed in R.G. 1.108. The licensee, by letter dated May 22, 1980 proposed these starts as valid, successful tests, thereby lowering the periodic testing frequency. Also, the licensee requested by letter dated June 3, 1980, that the allowable outage time remain at seven days and not be a function of demonstrated reliability. The Confirmatory Order requires the Limiting Conditions for Operation in the Technical Specifications to reflect the following on a "per last 100 test basis":

7 days for 3 or less D/G failures

32 hours for 4 D/G failures

8 hours for 5 D/G failures

None for 6 or more D/G failures

On May 19, 1980, the licensee discussed the diesel generator tests with the NRC Zion Project Manager, Edward Reeves. It was agreed that in the future after a diesel is started in conjunction with safeguards actuation testing, it must be loaded to the safeguards load (4MW). Then, upon verification of lubricating oil and cooling water temperature stability, the loaded run would be considered as a valid successful test. Any future test to verify operability of the diesel generator, whether it is a periodic test or a verification of standby AC power, would be a one hour loaded run as outlined in R.G. 1.108.

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### Evaluation

We have reviewed the information provided by the licensee concerning the diesel generator starts prior to May 19, 1980 for the safeguard actuation tests. During these safeguard actuation tests, the licensee reported zero diesel generator failures. During the periodic testing of diesel generators, most of the probable failures are known to occur during the startup, loading or warm up periods. For this reason, we are giving credit for the previous safeguard actuation tests as valid successful tests.

We have also reviewed the request for the "Allowed Outage Time" not to be made a function of demonstrated diesel generator reliability. We have found no acceptable basis or justification for reconsideration of this item. Allowed outage times are considered by the staff to be integrally associated with the number of diesel generator failures. Thus, for more failures during tests a smaller outage time is allowed.

### Conclusion

Based on our review of the information provided by the licensee under submittals of May 22, and June 3, 1980 concerning periodic testing of diesel generators on Zion Station Unit Nos. 1 and 2, we conclude the following:

1. The request to count diesel generator starts or failures to start for the safeguard actuation tests prior to May 19, 1980 as valid tests as specified in R.G. 1.108 is acceptable.
2. The request to change the "Allowable Outage Times" for the restoration of an inoperative diesel generator is not approved. (Note: This license submittal was withdrawn by letter dated August 11, 1980. However, our review was completed prior to receipt of the August 11, 1980 letter.)