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NRC PROPOSES REQUIREMENTS GOVERNING  
EMERGENCY DIESEL GENERATOR RELIABILITY

The Nuclear Regulatory Commission is proposing new requirements to determine the reliability of emergency diesel generators used as backup electric power sources at licensed nuclear power plants.

Utilities owning and operating these facilities already are required to assure that they are capable of withstanding a total loss of alternating current (AC) power ("station blackout") for a minimum specified time (determined on a case-by-case basis) and to maintain reactor cooling during that period.

Since the reliability of on-site emergency AC power sources (diesel generators) is one of the main factors contributing to the risk of a reactor fuel melt because of "station blackout" and a resultant loss of reactor cooling, the proposed requirements would provide for testing and monitoring the performance of emergency diesel generators (EDGs) against criteria that indicate degradation from the EDG target levels selected for compliance with the station blackout rule.

As proposed, the new requirements would be based primarily on surveillance tests which subject the diesels to start and run load cycles coupled with unplanned starts and load-runs which occur during normal operation:

-- Three failures of an emergency diesel generator or for all emergency diesel generators assigned to a nuclear power reactor, within the last 20 demands, would constitute an "early warning" of potential degradation and would require the licensee to provide a written report to the NRC, within 30 days, on the cause of the condition and the nuclear unit emergency diesel generator failure history within the last 20 demands.

-- Four failures of an emergency diesel generator, in the last 25 demands, would mean a "problem diesel" requiring corrective action, accelerated testing to demonstrate effective maintenance action (seven, consecutive, failure-free tests) and a 30-day written report to the NRC stating the cause of the condition, the emergency diesel generator failure history in the last 100 demands.

-- Five failures, within the last 50 demands, for a selected reliability level of 0.95, or eight failures, within the last 100 demands, for a selected reliability level of 0.975, would provide reasonable evidence that emergency diesel generator reliability had degraded below the target reliability level selected by the licensee in determining station blackout duration and recovery. The condition would constitute non-compliance with the Commission's requirements governing station blackout and would require regulatory action as well as being subject to the reporting requirements of the station blackout rule.

The Commission, as part of a final rulemaking on this matter, would amend its Enforcement Policy to specify that a five-failure report would constitute a Severity Level III violation of the "station blackout" requirements and normally would result in a proposed civil penalty. The amendments also would make clear that "early warning" and "problem diesel" reports would not be subject to escalated enforcement action but that the Severity Level of violations associated with failure to make such reports would be determined on a case-by-case basis.

Written comments on the proposed amendments to Part 50 of the Commission's regulations should be received by July 6, 1992. They should be addressed to the Secretary of the Commission, Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch.

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