

*Southern California Edison Company*

SAN ONOFRE NUCLEAR GENERATING STATION  
P.O. BOX 128  
SAN CLEMENTE, CALIFORNIA 92672

H. B. RAY  
STATION MANAGER

August 2, 1982

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SCE  
TELEPHONE  
(714) 492-7700

U. S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region V  
1450 Maria Lane, Suite 210  
Walnut Creek, California 94596-5368

Attention: Mr. R. H. Engelken, Regional Administrator

Subject: Docket No. 50-206  
Licensee Event Report No. 82-017, Revision 1,  
San Onofre Nuclear Generating Station, Unit 1

- Reference:
1. Letter, H.B. Ray (SCE) to R.H. Engelken (NRC),  
Written Confirmation of Prompt Notification  
dated June 15, 1982
  2. Letter, H.B. Ray (SCE) to R.H. Engelken (NRC),  
Licensee Event Report 82-017, dated June 28, 1982

Reference 1 provided written confirmation of prompt notification of what could potentially have been an unplanned release from the South Waste Gas Decay Tank at San Onofre Nuclear Generating Station Unit 1. Reference 2 complied with Appendix B Technical Specification 5.6.3.a.(2) in providing an interim followup report. We committed to providing you with a final report and revised LER upon resolution of cause and corrective actions. This letter constitutes that final report.

Several incidents of leakage from the Waste Gas Decay Tanks at Unit 1 have been investigated previously. Those leak tests, consisting of observing and recording tank system pressures over a number of hours, have shown that the Waste Gas Decay Tanks do indeed leak, but were insufficient to identify the leak pathway(s). It had been suspected that leakage was internal, because at no time during a leak incident had the stack monitor or the local air radiation monitors sensed any radiation.

In order to obtain the data necessary to resolve this question a helium leak test was carried out by an outside contractor. The test was designed to sniff for helium at a number of strategic points in the Waste Gas Decay System. Presence or absence of helium at these probe points would identify leakage paths.

Evaluation of the helium leak test data leads to the following conclusions:

- a) Little or no gas was released to the atmosphere.

Except for some minor leakage from a valve (identified and corrected previously as reported in Reference 2) and a glass flowmeter, there is no detectable leak path to the outside.

- b) An internal leak path was identified.

The majority of leakage from the decay tanks follows an internal leak path that leads through the compressor to the surge tank, flash tank and possibly beyond. Decay tanks leak to each other.

Before putting the system back into service SCE plans the necessary corrective actions to minimize back-leakage and preclude recurrence of these pressure losses.

SCE has determined that no uncontrolled release occurred during these events. It should be pointed out that even if the contents of the Waste Gas Decay Tank had leaked to the atmosphere, the release would have been well within the Technical Specification limits. In the case in question, the South Waste Gas Decay Tank dropped from 25 psi(g) to 0 psi(g) sometime within a 24 hour period. Using this observed pressure drop, the known volume of the tank, and the activity of the gas as determined by a 1260cc sample taken after the event, the maximum total release is calculated to be  $6.22 \text{ E-4 Ci}$ . There are two methods for evaluating this release within the Technical Specifications.

- A) Maximum allowed release rate (for one hour or less) per Technical Specification 4.6A is  $1.85\text{E}6 \text{ m}^3/\text{sec}$ . If all the contents of the tank leaked to the atmosphere and if all the leakage occurred in one second, this would have resulted in a release on the order of 0.1% of the limit.
- B) Maximum permissible concentration at the boundary fence, again using the most conservative assumptions, is calculated to be  $9.15 \text{ E-13 uCi/cc}$ , or approximately 0.00003% of the Technical Specification limit.

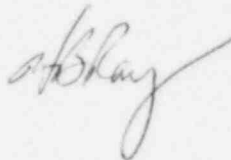
Mr. R. H. Engellen

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August 2, 1982

Please contact me should you require additional information.

Sincerely,

A handwritten signature in cursive script, appearing to read "Abhay".

cc: L. F. Miller (USNRC Resident Inspector, San Onofre Unit 1)

U. S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement

U. S. Nuclear Regulatory Commission  
Office of Management Information and Program Control

Institute of Nuclear Power Operations