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Director of Nuclear Reactor Regulation
Attention: D. M. Crutchfield, Chief
Operating Projects Branch No. 5
Division of Project Management
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Subject: Docket No. 50-206
Systematic Evaluation Program
San Onofre Nuclear Generating Station
Unit 1

By letters dated April 17, and June 12, 1980, the NRC requested additional information regarding SEP Topic VI-4, Containment Isolation System. Provided as an enclosure to this letter are the responses to that request.

If you have any additional questions regarding this matter, please let me know.

Very truly yours,

K P Baskin

Enclosure

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Additional Information for Purging
and Venting System
San Onofre Unit 1

ITEM 1

Provide the process and instrumentation diagram (P&ID) and schematic diagrams for the purge and vent system.

RESPONSE

The following drawings are provided as an enclosure:

568782 - Rev. 18 - P&ID Diagram
Air Conditioning System

5149857 - Rev. 2 - Elementary Diagram Purge,
Press Equalizer & Isolation
Valves, Instrument Air System
and Dampers

ITEM 2

SCEC 1/9/79 letter indicates that when a manual override of the safety injection actuation signal is affected, this also overrides the containment spray actuation signal and the containment purge isolation valves. The NRC guidelines required that, for any override, an annunciator be provided for each system impacted when the override is active. Describe how the San Onofre 1 design meets this guideline.

RESPONSE

The automatic containment isolation valves at San Onofre Unit 1 close on either a containment high pressure (above 2 psig) signal or a safety injection actuation signal. The automatic isolation valves in the purge and vent system will also close on receipt of a high radiation signal. Manual override of the safety injection actuation signal will block the signal to the isolation valves, such that, the valves will close only on a containment high pressure signal with the exception of the purge and vent valves which will also close on a containment high radiation signal. Blocking the safety injection actuation signal also affects the containment spray actuation system logic such that automatic actuation of containment spray will not occur. An annunciator is provided in the control room that indicates the safety injection actuation signal is blocked. There is no individual annunciator which indicates the containment isolation system logic has been affected by the blocking of the safety injection actuation signal since the other isolation signals are not affected. There is no individual annunciator which indicates the containment spray actuation system logic has been affected since operation of this system is directly associated with operation of the safety injection system.

ITEM 3

SCEC 1/9/79 letter describes that manual override of the safety injection actuation signal is accomplished by use of a manual "double-action block switch". The NRC guideline requires that override controls have sufficient physical features (i.e., keylock switches or covered switches) to facilitate adequate administrative control. Describe how the "double-action block switch" satisfies the NRC guideline.

RESPONSE

Associated with each of the two safety injection trains is a safety injection block switch. The override for each train is accomplished by operating the particular spring return double-action block switch for each train. The double-action involves pulling out the switch control lever and rotating it clockwise for the block position. Releasing the control lever allows it to return to its normal position while initiating the block of the associated safety injection train. It requires two actions (double-action) for the operator to block a single safety injection train. Operation of two block switches is required to block the entire safety injection system. This double-action feature is considered to provide sufficient administrative control of the safety injection block switch.

ITEM 4

The NRC guideline requires signals which initiate containment isolation be derived from safety grade equipment. Discuss the qualifications of the equipment providing the (a) high containment pressure, (b) high containment radiation, and (c) safety injection actuation signals.

RESPONSE

The environmental qualification of electrical equipment required to mitigate post-accident conditions is discussed in SCE's letter to the NRC dated June 18, 1980.

- (a) The pressure transmitters which initiate the containment high pressure signal are located outside containment. They are Foxboro E11GM's which have been environmentally qualified to 300°F, 75 psia, 100% relative humidity, chemical spray and a radiation dose of 2.2×10^8 rads. These values exceed the post-accident environmental conditions for the area in which the transmitters are located.
- (b) The radiation monitor which initiates the high containment radiation signal was not addressed in the June 18, 1980 submittal. The post-accident environmental conditions for the area in which the monitor is located was discussed. The monitor is located outside containment in the ventilation equipment building. The June 18, 1980 submittal indicates that this area will remain at ambient conditions following an accident and the post-accident radiation doses will be insignificant. Therefore, the monitor will experience conditions similar to those during normal operations and is considered to be qualified based on experience.

- (c) The pressure transmitters which initiate the safety injection actuation signal are the pressurizer pressure transmitters located inside containment in the pressurizer instrument cabinet and the containment pressure transmitters discussed in (a) above. The pressurizer pressure transmitters are also Foxboro E11GM's qualified to 300°F, 75 psia, 100% relative humidity, chemical spray and a radiation dose of 2.2×10^6 rads. These values exceed the post-accident environmental conditions following a LOCA inside containment as indicated in the June 18, 1980 submittal.

ITEM 5

The NRC guideline requires that overriding or resetting of the isolation actuation signal does not cause automatic reopening of any isolation or purge valve. Discuss how the San Onofre Unit 1 design meets this guideline.

RESPONSE

San Onofre Unit 1's compliance with this guideline is discussed in Item 2.1.4 of the Additional Information/Actions to Implement the Category A Lessons Learned Requirements submitted to the NRC by letter dated March 25, 1980.