Southern California Edison Company SAN ONOFRE NUCLEAR GENERATING STATION P. J. BOX 128 SAN CLEMENTE, CALIFORNIA 92074-0128 TELEPHONE B. W. KRIEGER (714) 366-6255 STATION MANAGER March 29, 1991 U. S. Nuclear Regulatory Commission Document Control Desk Washington, D.C. 20555 Subject: Docket No. 50-361 30-Day Report Licensee Event Report No. 91-004 San Onofre Nuclear Generating Station, Unit 2 Pursuant to 10 CFR 50.73(d), this submittal provides the required 30-day written Licensee Event Report (LER) for an occurrence involving delirquent fire watch postings for inoperable fire detection instrumentation. Since this occurrence involves areas common to both Units 2 and 3, a single report for Unit 2 is being submarred in accordance with NUREG-1022. Neither the health nor the safety of plana, ersonnel or the public was affected by this occurrence. If you require any additional information, please so advise. Sincerely, Enclosure: LER No. 90-004 C. W. Caldwell (USNRC Senior Resident Inspector, Units 1, 2 and 3) J. B. Martin (Regional Administrator, USNRC Region V) Institute of Nuclear Power Operations (INPO) 9104020396 91032 PDR ADORK 05000

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At 1535 on February 27, 1991, with Units 2 and 3 operating in Mode 1 at 100% power, based upon information received in the Control Room including; a ground alarm, a report of water near non-Technical Specification (TS) Pyrotronics Control Panel 2/3L-201-3 (it was raining heavily at the time), and the inability to reset spurious supervisory and fire alarms from the panel, Operators appropriately opened power supply breaker 2L-414-13 to de-energize the panel. Opening the breaker also caused the de-energization of a related TS Pyrotronics Control Panel 2/3L-201-1. As a result, 31 hourly fire watches in the Unit 2/3 Auxiliary Radwaste Building were required to be established. The establishment of fire watches was not completed within the 1 hour required by TS 3.3.3.7. Appropriate fire watches were in place by 1800.

The cause of this event was that the work process associated with the establishment of the fire watches required by the de-energization of TS Pyrotronics Control Panel 2/3L-201-1 was unwieldy and could not be accomplished within the 1 hour TS Action requirement.

An investigation into the cause of the spurious supervisory and fire alarms from panel 2/3L-201-3 is currently ongoing. Contingency plans for similar scenarios are being developed. Fire watch supervision will be relocated to the same area as the Emergency Services Officers (ESOs) to facilitate more rapid deployment of fire watches. A list of SONGS Units 2 and 3 power supply breakers associated with fire detection instrumentation will be made more readily available to the ESOs and Operations personnel which will aid in the identification of affected fire area/zones and attendant compensatory action requirements.

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Plant: San Onofre Nuclear Generating Station

Units: Two and Three

Reactor Vendor: Combustion Engineering

Event Date: 02-27-91

### A. CONDITIONS AT TIME OF THE EVENT:

Mode: 1, Power Operation (Units 2 and 3)

### B. BACKGROUND INFORMATION:

The Units 2 and 3 parly warning fire detection system [:C] consists of a series of fire detectors [DET], which provide input to an associated Pyrotronics control panel [PL]. This control panel, in turn, sends data to a Honeywell data gathering panel. From this panel, signals are sent to the Fire Monitoring System (FMS) where information on power, fire, and/or trouble indication associated with the fire detection loops is processed. From the FMS, appropriate alarm signals are transmitted to the Control Room and Emergency Services Officer (ESO) office for response.

Pyrotronics Control Panel 2/3L-201-3 serves as the control panel for non-Technical Specification (TS) fire detectors located in one fire area/zone of the Unit 2/3 Auxiliary Radwaste Building. Pyrotronics Control Panel 2/3L-201-1 serves as the control panel for TS fire detectors located in fourteen additional fire area/zones of the Unit 2/3 Auxiliary Radwaste Building. The fire detection instrumentation located in these area/zones consists of early warning smoke detectors [DET, IA], which detects the presence of smoke in the vicinity of the detector. The early warning detectors provide an alarm function only.

TS 3.3.3.7, "Fire Detection Instrumentation," Action a.2., requires the establishment of an hourly fire watch when greater than 50% of the early warning detectors are inoperable for a given fire area/zone. The supervisory circuits associated with the detector alarms are functionally tested every 6 months per TS Surveillance Requirement 4.3.3.7.2.

TS 3.7.9, "Fire Rated Assemblies," Action a., requires the establishment of a continuous fire watch in the given fire area/zone, when one or more of TS required fire rated assemblies are inoperable and no detection equipment is operable on one side of the barrier.

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At San Onofre Units 1, 2, and 3, when inoperable fire protection equipment [KP, KQ] is identified, the ESOs, who are part of the Emergency Preparedness (EP) organization, perform an impairment evaluation which identifies the affected fire area/zones and the appropriate compensatory measures pursuant to the TS Action requirements. In anticipation of the inoperability of fire protection equipment (i.e., Pyrotronics control panels) which could result in the need to quickly establish substantial compensatory measures pursuant to the TS Action requirements, preestablished fire impairment forms have been developed which provide a list of the fire area/zones associated with the respective equipment.

### C. DESCRIPTION OF THE EVENT:

## 1. Event:

At 1535 on February 27, 1991, based upon information received in the Control Room including; a ground alarm, a report of water near non-TS Pyrotronics Control Panel 2/3L-201-3 (it was raining heavily at the time), and the inability to reset spurious supervisory and fire alarms from the panel, Operators (utility, licensed) appropriately opened power supply breaker 2L-414-13 to de-energize the panel. Opening the breaker also caused the de-energization of a related TS Pyrotronics Control Panel 2/3L-201-1. Appropriate alarms were received in the ESO office and Control Room signifying a loss of power to both panels.

In accordance with procedures, the ESOs (utility, non-licensed) performed an evaluation of the fire areas/zones affected by the deenergization of the panels. As a result, it was identified that 31 hourly fire watches in the Unit 2/3 Auxiliary Radwaste Building were required to be established. However, the establishment of fire watches was not completed within the 1 hour required by TS 3.3.3.7. Appropriate fire watches were in place by 1800.

2. Inoperable Structures, Systems or Components that Contributed to the Event:

None.

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## Sequence of Events:

<u>Time</u>	Actions
1524	Spurious supervisory and fire alarms are received on panel 2/3L-201-3.
-1530	Ground alarm received. Report of water near panel 2/3L-201-3.
1535	Operators open breaker 2L-414-13.
1535	ESOs evaluate the fire area/zones affected by panels $2/3L-201-1$ and $2/3L-201-3$ identifying the need to establish 31 hourly fire watches.
1800	All fire watches established as required.

4. Method of Discovery:

The ESOs recognized that at the end of the 1 hour period, fire watches were not in place in all of the required fire area/zones.

- Personnel Actions and Analysis of Actions:
   See Section C.1 above.
- Safety System Responses: Not applicable.

#### D. CAUSE OF THE EVENT:

An evaluation of the administrative controls associated with the establishment of the fire watches for TS Pyrotronics Control Panel 2/3L-201-1 determined that the work process was unwieldy and could not be accomplished within the 1 hour TS Action requirement. Specifically, it was necessary for the ESOs to 1) obtain the pre-established fire impairment form for this condition, 2) review other active fire impairments to determine their affect on the pre-established fire impairment form (i.e., determine whether a continuous or hourly fire watch was required for each area/zone), and 3) relay the fire watch posting requirements via telephone to the fire watch supervisor (the fire watch supervisor is located in a different building than the ESOs). This process took 55 minutes to complete. In addition, once the fire watch supervision received the information it was necessary for them to manually prepare individual posting assignment sheets for each of the 31 affected fire area/zones and have fire watches posted for the area/zones.

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Although a pre-established fire impairment form containing a list of associated fire area/zones had been developed for events such as this, the actions necessary for the establishment of the fire watches, as outlined above, were not included as part of this pre-plan. Consequently, the difficultly encountered in meeting the requirements of the TS within the specified time period was not previously ide tified.

### E. CORRECTIVE ACTIONS:

- 1. Corrective Actions Taken:
  - a. This event has been discussed with appropriate ESO and Operations personnel.
  - b. An investigation into the cause of the spurious supervisory and fire alarms from non-TS Pyrotronics Control Panel 2/3L-201-3 is currently ongoing. Corrective actions as a result of the investigation will be implemented as appropriate.

## 2. Planned Corrective Actions:

- a. Contingency plans will be developed which will permit the establishment of fire watches within 1 hour during similar scenarios.
- b. Fire watch supervision will be relocated to the same area as the ESOs so that impairment information can be more quickly conveyed to the fire watch.
- c. A list of SONGS Units 2 and 3 power supply breakers associated with fire detection instrumentation will be made more readily available to the ESOs and Operations personnel. Use of this list will aid in the establishment of compensatory measures prior to opening of breakers associated with fire detection equipment. A similar list already exists for SONGS Unit 1 (see Section G.2. below).

# F. SAFETY SIGNIFICANCE OF THE EVENT:

Based on 10 CFR 50 Appendix R, Section III.G analysis, as documented in the San Onofre Updated Fire Hazards Analysis, a design basis fire in any of the fire areas/zones that had inoperable detection instrumentation and no compensatory measures, would not have affected the ability of either unit to achieve safe shutdown. Therefore, there is no safety significance to this event.

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### G. ADDITIONAL INFORMATION:

Component Failure Information:
 Not applicable.

2. Previous LERs for Similar Events:

LER 89-006 (Docket No. 50-206) reported an event involving deenergization of SONGS Unit 1 Pyrotronics control panels resulting in delinquent fire watch postings. This event involved personnel error by an Operator (utility, non-licensed) and the ESOs (then nonutility, non-licensed). As a corrective action, a list of power supply breakers associated with SONGS Unit 1 fire detection instrumentation was made more readily available to the ESOs and Operations personnel. This list was developed for SONGS Unit 1 and therefore, would not have prevented the event being reported in this LER.