



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 48 TO NPF-10 AND AMENDMENT NO. 37 TO NPF-15

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL

DOCKET NOS. 50-361 AND 50-362

1.0 INTRODUCTION

Southern California Edison Company (SCE), on behalf of itself and the other licensees, San Diego Gas and Electric Company, The City of Riverside California, and The City of Anaheim, California, has submitted several applications for license amendments for San Onofre Nuclear Generating Station, Units 2 and 3. One such request, Proposed Change PCN-209, is evaluated herein. This change would revise Technical Specification (TS) 3/4.9.6, "Refueling Machine" to allow the use of refueling machine auxiliary hoist (RMAH) in conjunction with a specially designed four (4) or five (5) finger lift tool for movement of control element assemblies (CEAS). At the staff's request, by letter dated February 4, 1986 the licensee provided a description of the proposed modification of the refueling machine to add the RMAH and a description of the use of the RMAH.

2.0 DESCRIPTION OF CHANGE

The RMAH is an underhung bridge-monorail, wire-rope hoist to be mounted on the existing bridge of the refueling machine. The hoist has five speeds up to 18 fpm. The trolley has two speeds, 30 and 10 fpm. Bidirectional interlocks are provided to prevent simultaneous movement of the refueling machine and the RMAH. Redundant load-limiting devices are provided on the hoist.

The RMAH will be used during refueling to move CEAs without fuel assemblies, in order to perform and verify coupling of CEA extension shafts, and for lifting and manipulating refueling tools. The operation of the RMAH will be governed by the refueling machine operating procedures, i.e., S023-I-3.42, "Refueling Machine, Preeoperation, Operation, and Layup."

The reactor core contains two types of CEA's, the five finger CEA which is inserted into a single fuel assembly and the four finger CEA which is inserted into two adjacent fuel assemblies. At present, a single four finger CEA may be moved over the core by the auxiliary hoist of the polar crane; however, the five finger CEA's are moved with the fuel assembly to the CEA change mechanism location where they are transferred from one fuel assembly to another using the CEA change mechanism. The RMAH will be used in lieu of the polar crane to shuffle the CEAs (both types) over the core, and to handle small loads (i.e., camera lights, storage containers, refueling tools) during refueling.

The proposed revision to Technical Specification 3/4.9.6, "Refueling Machine," allows the use of the RMAH for the movement of CEAs without fuel assemblies. The RMAH is deemed operable with an overload cut off limit of 1000 pounds or less. The cut off limit switch will be demonstrated operable within 72 hours prior to the start of a refueling.

3.0 SAFETY EVALUATION

The RMAH will be performing functions presently allowed to be performed with the auxiliary hoist of the polar crane. The RMAH has the following conservative design features:

1. A load cell to provide the operator visual indication of the load being lifted.
2. A fixed set point load monitor to disable upward hoist travel on all five hoist speeds when loads greater than 1000 lb plus or minus 20% are sensed.
3. A variable setpoint load monitor to disable upward hoist travel on the slowest hoist speed when loads greater than the setpoint plus or minus 1% are sensed.
4. An adjustable delay circuit to hold the RMAH in the slowest speed at the beginning of a lift to provide sufficient time for a potential overload condition to be sensed before allowing the selection of a higher speed.
5. Load limiting devices which limit the maximum stresses in load bearing material to 10% of their ultimate strength.
6. Both mechanical and electrical brakes, each capable of restraining 300% of the maximum service load. Both sets of brakes are automatically engaged on the loss of electric power.

The above features provide adequate protection against a possible load drop from the RMAH. The NRC staff has reviewed the proposed change and finds that the use of the RMAH rather than the polar crane auxiliary hoist is acceptable, because the RMAH can be used safely to move CEAs without fuel assemblies during refueling and presents no load handling concern beyond that previously reviewed. Therefore, the proposed change (PCN-209) to Technical Specification 3/4.9.6, "Refueling Machine" is acceptable.

4.0 CONTACT WITH STATE OFFICIAL

The NRC staff has advised the Chief of the Radiological Health Branch, State Department of Health Services, State of California, of the proposed determination of no significant hazards consideration. No comments were received.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments involve changes in the installation or use of facility components located within the restricted area. The staff has determined that the amendments involve no significant increase in the amounts of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupation radiation exposure. The Commission has previously issued proposed findings that the amendments involve no significant hazards consideration, and there has been no public comment on such findings. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR Sec. 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need to be prepared in connection with the issuance of these amendments.

6.0 CONCLUSION

The Staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public. We, therefore, conclude that the proposed changes are acceptable, and are hereby incorporated into the San Onofre 2 and 3 Technical Specifications.

Dated: May 29, 1986