



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO HAZARDOUS CARGO SHIPMENTS

SOUTHERN CALIFORNIA EDISON COMPANY

SAN ONOFRE NUCLEAR GENERATING STATION UNIT NOS. 2 AND 3

DOCKET NOS. 50-361 AND 50-362

1. INTRODUCTION

Section 6.9.1.14 of the Technical Specifications of San Onofre Nuclear Generating Station, Unit Nos. 2 and 3 (SONGS 2/3), requires that "hazardous cargo traffic on Interstate 5 and the Atchison, Topeka and Santa Fe (AT&SF) railway shall be monitored and the results submitted to the NRC Regional Administrator once every three years." The Southern California Edison Company, the licensee of SONGS 2/3, submitted a risk analysis of the 1990 offsite hazard cargo monitoring in a letter dated February 15, 1991, as amended June 17, 1991.

2. DESCRIPTION OF THE LICENSEE'S ANALYSIS

The analysis of offsite hazardous cargo risks is documented in Section 2.2.3 of the San Onofre Nuclear Generating Station, Unit Nos. 2 and 3, Updated Final Safety Analysis Report. The last analysis was updated in 1984 and 1987. The present 1991 report is the latest update of the analysis.

The monitoring effort consisted of conducting a roadside survey along Interstate 5 and written correspondence with representatives from the following agencies:

- United States Marine Corps, Camp Pendelton, CA
- Department of the Navy, Seal Beach, CA; San Diego, CA; and Concord, CA
- Atchison, Topeka and Santa Fe Railroad, Topeka, KS

Three types of hazardous cargos were monitored: toxic chemicals, explosives, and materials that could ignite and yield high temperatures or generate other hazardous clouds.

Approximately 100 new potentially hazardous materials were identified in the survey. Only 20 of these new materials were determined to pose a potential hazard to the facility. The frequency of shipments of each new material was added to the total shipping frequency of similar materials (those having similar physical properties) previously evaluated. The revised shipment frequency of similar materials was divided by the shipment frequency in the original analysis to obtain the ratio of the new shipment frequency to the original shipment frequency. This ratio was then multiplied by the original hazard frequency to obtain the updated hazard frequency of the similar materials.

For the explosives, all the materials capable of creating an overpressure in excess of the design value of 7 pounds-per-square-inch at the nearest safety-related plant structure were grouped together and evaluated as a single event.

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Increase in shipment sizes was considered. The analysis also used the site-specific truck accident data taken from 1982 through 1989 in a 10-mile section of Interstate 5, 5 miles north and 5 miles south of SONGS.

The result of the analysis indicates that the risk from each of the three types of hazardous materials is less than $1E-6$ (one times ten raised to the minus sixth power) per year, except for propane and anhydrous ammonia.

3. STAFF EVALUATION

The NRC staff has determined that the data used in the licensee's risk analysis have been properly collected. Shipment information from several agencies responsible for the nearby highway and railroad traffic is included. Potential hazardous materials are identified. Site-specific traffic and accident data are used in the risk analysis. Conservative assumptions are also made in the analysis.

Of all the hazardous materials considered, only propane and anhydrous ammonia exceed the acceptance criterion of $1E-06$ per year in Section 2.2.3 of Standard Review Plan (NUREG-0800, July 1981). However, monitoring and automatic control room isolation are provided at SONGS 2/3 for propane, anhydrous ammonia, and chlorine by the Control Room Toxic Gas Isolation System. The staff has determined that control room habitability at SONGS 2/3 is protected against these potential hazardous materials in accordance with Section 6.4 of the Standard Review Plan.

The estimated risks for all other hazardous materials are less than the acceptance criterion of $1E-6$ per year. The NRC staff has determined that an accidental spill of any one of these materials would not pose significant risks to the safe operation of the San Onofre Nuclear Generating Station, Unit Nos. 2 and 3.

Finally the NRC staff notes that the safety evaluation dated June 23, 1988, regarding the previous hazardous cargo report indicated a misapplication of Standard Review Plan Section 2.2.3, which was not subsequently recognized and tracked by the licensee for the present report. The amended report reflects the results of the correct application of this section. The results and conclusions remain acceptable.

4. CONCLUSION

On the basis of the above evaluation, the NRC staff concludes that the licensee's risk analysis of the hazardous cargo shipments near the San Onofre Nuclear Generating Station, Unit Nos. 2 and 3, is acceptable. However, by January 31, 1992, the licensee should submit to the NRC staff the results of the licensee's study reconfirming that all safety-related structures were considered in the overpressure evaluation.

Dated:

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