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U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Subject: **Docket Nos. 50-361 and 50-362**
Modeling of Fuel Handling Accident Dose Analysis
San Onofre Nuclear Generating Station
Units 2 and 3

References: 1) July 19, 1995 letter from Richard M. Rosenblum (Edison) to Document Control Desk (NRC), Subject: Docket Nos. 50-361 and 50-362, Amendment Application Nos. 148 and 132, Radiation Monitoring System, San Onofre Nuclear Generating Station, Units 2 and 3

2) December 22, 1995 letter from Richard M. Rosenblum (Edison) to Document Control Desk (NRC), Subject: Docket Nos. 50-361 and 50-362, Amendment Application Nos. 148 and 132, Supplement 1, Radiation Monitoring System, San Onofre Nuclear Generating Station, Units 2 and 3

3) Regulatory Guide 1.25, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling Building and Storage Facility for Boiling and Pressurized Water Reactors"

This purpose of this letter is to transmit Southern California Edison's (Edison's) response to the San Onofre Units 2 and 3 NRC Project Manager's request for additional information in support of References 1 and 2.

The NRC requested Edison to transmit information explaining Edison's use of a 1.20 fuel assembly peaking factor in the modeling of fuel handling accidents as opposed to the 1.65 peaking factor from Reference 3. The requested information is provided in detail in the enclosure to this letter.

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If you have any questions or need additional information on this submittal, please let me know.

Sincerely,

Walter C. Marsh

Enclosure

cc: L. J. Callan, Regional Administrator, NRC Region IV
J. E. Dyer, Director, Division of Reactor Projects, Region IV
K. E. Perkins, Jr., Director, Walnut Creek Field Office, NRC Region IV
J. A. Sloan, NRC Senior Resident Inspector, San Onofre Units 2 & 3
M. B. Fields, NRC Project Manager, San Onofre Units 2 and 3

Enclosure

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION ASSOCIATED WITH AMENDMENT NOS. 148 AND 132 (PCN-432)

NRC Question:

Explain Southern California Edison's (Edison's) use of a 1.20 fuel assembly peaking factor for modeling fuel handling accident dose analysis.

Edison Response:

In a recent dose analysis for a fuel handling accident at San Onofre Units 2 and 3, Edison used a fuel assembly peaking factor of 1.20 for high burnup fuel assemblies. The acceptability of using this factor was based on an evaluation of plant specific fuel design and operating conditions.

The evaluation of the San Onofre Units 2 and 3 fuel and operating conditions was based on information in the Unit 2 Physics Data Book for Cycles 6, 7, and 8; specifically, the relative power densities (RPDs) for high burnup fuel assemblies (i.e., assemblies burned once or twice). Throughout these three cycles the RPDs of the high burnup fuel assemblies were found to be all below 1.15 and at the end of cycle the highest RPD was 1.10. In addition, preliminary analysis for the next Unit 2 fuel cycle (Cycle 9) indicates that high burnup fuel assembly RPDs are below 1.15. Because Units 2 and 3 operate essentially identically, this data is considered to also be applicable to Unit 3. Therefore, use of a 1.20 fuel assembly peaking factor in modeling the Units 2 and 3 fuel handling accident is concluded to be conservative for high burnup fuels.

The existing San Onofre Units 2 and 3 fuel handling accident analysis follows the guidance of Regulatory Guide (RG) 1.25, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling Building and Storage Facility for Boiling and Pressurized Water Reactors." RG 1.25 assumes a radial peaking factor of 1.65 for pressurized water reactors in the calculation of individual fission product inventories. However, RG 1.25 allows alteration of assumptions due to site specific characteristics, plant design features, and major changes in fuel composition or management. Edison's use of a fuel assembly peaking factor of 1.20 for high burnup fuels is consistent with this guidance since it is based on plant specific design and operating information.