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SCHUYLER,J.O. Pacific Gas & Electric Co.
RECIP.NAME RECIPIENT AFFILIATION
EISENHUT,D.G. Division of Licensing

SUBJECT: Requests change of 831104 commitment to reflect recent study finding that ligating levels less than one foot-candle at floor acceptable for emergnecy lighting per Section III.J of App R.Addl info encl.

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J. O. SCHUYLER
VICE PRESIDENT
NUCLEAR POWER GENERATION

April 17, 1984

PGandE Letter No.: DCL-84-148

Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Docket No. 50-275, OL-DPR-76
Diablo Canyon Unit 1
Section III.J of Appendix R, Emergency Lighting - Additional Information

Dear Mr. Eisenhut:

PGandE's submittal to the NRC dated November 4, 1983 provided additional information on Appendix R review, Section III.J, Emergency Lighting. In that letter, PGandE committed to have an illumination of one foot-candle at floor level for those areas needed for operation of safe shutdown equipment, and in the access and egress routes thereto. This was in accordance with the guidelines of NFPA 101.

PGandE has performed a study of the emergency lighting level in the areas mentioned above. In this study, it was found that lighting levels less than one foot-candle at the floor were acceptable for implementing actions required for operation of safe shutdown equipment and along the access and egress routes to such equipment. A report of the emergency lighting levels study is provided as an enclosure to this letter.

Emergency lighting at Diablo Canyon will provide levels of illumination sufficient to allow required actions to be taken on safe shutdown systems. Therefore, PGandE requests that the previous commitment of an illumination of one foot-candle at floor level be changed to state:

> "Emergency lighting at Diablo Canyon will provide a sufficient level of illumination to allow any needed operations of safe shutdown equipment and to assure that access and egress paths to such equipment also have adequate illumination for traverse of these paths."

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This is consistent with the most recent guidance provided by the NRC Staff on levels of illumination discussed in workshops conducted by NRC Region III and Region V on the clarification of Appendix R requirements.

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it in the enclosed addressed envelope.

Sincerely,

J. D. Schuyler

Enclosure

cc: Service List

ENCLOSURE

REPORT OF THE EMERGENCY LIGHTING LEVEL STUDY FOR THE APPENDIX R FIRE PROTECTION REVIEW AT DIABLO CANYON UNIT 1

INTRODUCTION

Two separate studies were conducted to ascertain Diablo Canyon Unit 1 compliance with 10 CFR 50 Appendix 'R' Section III.J "Emergency Lighting". These studies were conducted on December 5, 1983 and March 11, 1984. The purpose of these tests was to ensure the adequacy of emergency lighting levels along access and egress paths to safe shutdown equipment whose circuitry may be damaged by a postulated fire and would require local action by a plant operator. (Note: The test conducted on March 11, 1984 was a follow-up test subsequent to completion of modifications to the finding of the test conducted on December 5, 1983.)

METHODOLOGY

Based on the Appendix R Section III.G review, a list of safe shutdown equipment requiring operator action was assembled. Plant fire area drawings were marked with proposed access/egress routes to this equipment. A series of tests were scheduled at night with simulated loss of light due to loss of offsite power and fire damaged lighting circuits. Three engineers, each accompanied with a plant operator, walked down an assigned access and egress route to safe-shutdown equipment from the control room throughout the test. A digital lighting level meter was provided for each engineer to document the lighting level along the walkdown paths. Measurements were taken on a continuous basis at a level between zero and 4 feet above the floor. Where the measured lighting levels were less than one foot-candle, the actual light levels were noted; otherwise, the measured lighting levels were recorded as one foot-candle or greater along the paths.

Based on the initial test walkdown, the plant operators provided comments on the most effective access/egress routes. Additional lighting requirements were also specified based on the judgment of the walkdown teams. After completion of lighting modifications, a followup walkdown was conducted to assure adequacy of these changes.

RESULTS

In nearly all the access and egress paths, one foot-candle of lighting level or greater was available for operator action and traversing of these paths. For those small areas or "pockets" which exist along the above paths that were less than one foot-candle, it was determined that lighting was sufficient to allow the operator to traverse the paths. This judgment took into consideration the short distances over which the deviation from one foot-candle lighting level was observed, the potential for overhead or tripping hazards, lighting levels in and around the surrounding area, and proposed minor modifications. These minor modifications include re-aiming or adding lights which will be completed prior to ascension above 5% power.