

10 CFR 72.7  
10 CFR 72.106(b)

September 29, 2022

ATTN: Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Subject: **Docket No. 72-041 .  
Response to Request for Additional Information regarding  
Request for Exemption from 10 CFR 72.106(b)  
San Onofre Nuclear Generating Station (SONGS)  
Independent Spent Fuel Storage Installation (ISFSI)**

- References: 1) Letter from A. Bates (SCE) to Document Control Desk (NRC) dated December 16, 2021; Subject: Docket No. 72-041, Request for Exemption from 10 CFR 72.106(b), San Onofre Nuclear Generating Station (SONGS) Independent Spent Fuel Storage Installation (ISFSI) (ADAMS Accession No. ML21355A241)
- 2) Email from A. Snyder (NRC) to A. Bates (SCE) dated September 22, 2022; Subject: Request for Additional Information – SONGS Exemption Request – 100 m CAB

Dear Sir or Madam:

By Reference 1, Southern California Edison (SCE) submitted a request for NRC approval of an exemption from a requirement of 10 CFR 72.106(b) for the San Onofre Nuclear Generating Station (SONGS) Independent Spent Fuel Storage Installation (ISFSI). The requirement for which exemption was requested was that the minimum distance from an ISFSI to the ISFSI Controlled Area Boundary (CAB) be at least 100 meters (the distance currently being used).

By Reference 2, SCE received a Request for Additional Information (RAI) resulting from the acceptance review of Reference 1. This letter provides SCE's response to the NRC's RAI.

The NRC's question is related to dose calculations performed in support of Reference 1. Specifically, the NRC asks for a justification for the occupancy factors cited in calculation SO1-207-1-C116, Revision 2, "Modified Control Area Boundary ISFSI Dose Calculation." The calculation mentions "Reference 5.7" which is an internal SCE memo that provides the details supporting the assumed occupancy factors.

Enclosure 1 of this letter provides the SCE memo that describes the basis for the assumed occupancy factors. The occupancy memo dates from 1991 when there was a sand beach outside the west ISFSI seawall boundary. Ocean driven erosion has swept away the sand

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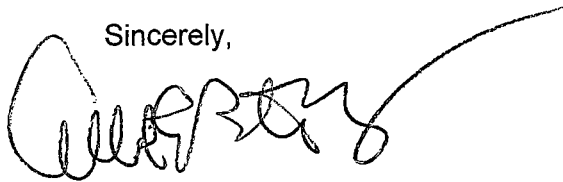
beach. The remaining rocks and riprap add another degree of conservatism to the assumptions made for occupancy in 1991. Note that in the discussion of the "West Boundary" occupancy factors, the memo mistakenly refers to NUREG-1.109. This should be Regulatory Guide 1.109 (specifically RG 1.109, Revision 1, Table E-5).

The SCE memo also refers to information in the San Onofre Units 2 and 3 Environmental Report, Operating License Stage, which was transmitted to the NRC on December 22, 1980 (ADAMS Accession No ML13304B592). A copy of the relevant page of the Environmental Report is provided as Enclosure 2.

There are no commitments in this letter or the enclosure.

If you have any questions, please contact me at (949) 368-7024.

Sincerely,

A handwritten signature in black ink, appearing to read "A. M. Snyder", with a long, sweeping horizontal line extending to the right.

Enclosures: 1. Memorandum for File, Occupancy Factors at San Onofre Owner Controlled Area Boundaries, dated October 1, 1991  
2. Excerpt from SONGS Units 2 and 3 Environmental Report – Operating License Stage

cc: S. A. Morris, Regional Administrator, NRC Region IV  
A. M. Snyder, NRC Project Manager, SONGS Units 1, 2 and 3

**ENCLOSURE 1**

Occupancy Factors at San Onofre Owner Controlled Area Boundaries

## MEMORANDUM FOR FILE

October 1, 1991

**SUBJECT: OCCUPANCY FACTORS AT SAN ONOFRE OWNER CONTROLLED AREA BOUNDARIES**

Occupancy factors are used to determine compliance with direct radiation dose limits of 40CFR190. The occupancy factors to be used by SONGS are:

LOCATION	OCCUPANCY FACTOR
South Boundary	8 hrs/yr
West Fence of Parking Lot 1, top of bluff	8 hrs/yr
East Boundary	20 hrs/yr
North Boundary	20 hrs/yr
West Boundary, seawall	300 hrs/yr

Justification for these values is described as follows:

### South Boundary

The south Owner Controlled Area (OCA) perimeter is an inhospitable environment (Reference: Letter from W.C. Lawrence to S. Medling, 8/2/91, "Fence along Southern Perimeter of SONGS", attached). There is no apparent reason for an individual to remain near this boundary for any significant period of time. If someone were to remain there for whatever reason, it is reasonable to assume that the individual would remain near the south boundary for a very short time, certainly less than 8 hours. The same environment exists for the west fence at Parking Lot 1 (top of the bluff), hence, the same occupancy is assumed for this location.

The occupancy for the south boundary and the west fence of Parking Lot 1, based on the logic above and the referenced letter from the Land Use Census consultant is established at 8 hours/yr.

### East and North Boundaries

The east OCA boundary runs along the old Coast Highway which provides access to the San Onofre State Beach. The north OCA boundary is at the edge of Parking Lot 4. Both of these portions of the OCA boundary have no attractive features which would be cause for an individual to remain for a significant period of time. However, both are accessible for transit to and from public attractions, such as the San Onofre State Beach. Therefore, the following conservative assumption is made for establishing occupancy:

**WALKING:** Assume that an individual walking along the east boundary travels at an average speed of 2 mph. The entire north boundary is less than 800' (Figure 2.1-2, Unit 1 UFSAR). The only potential source of direct radiation in close proximity to the east boundary is the proposed South Yard Facility, a building 200' long with a 120' staging area. Assume, therefore, that the building could contribute measurable direct radiation above background along approximately 400' of the east boundary (based on a survey of the Parking Lot 1 area around radioactive equipment boxes, survey W-1, No. 8, 3/20/91, pages 11 - 15).

2 mph = 176 ft/min;  $400' / 176 \text{ ft/min} = 2.3 \text{ min}$  transit time, one way. For a round trip, the result is 4.6 min. Rounding this up to 5 min, and conservatively assuming the individual takes a round trip walk once per day, 5 days/wk, 50 wks/yr yields a total time of 1250 min = 20.8 hrs.

**BICYCLING:** Assume that a recreational bicyclist rides one way past the South Yard Facility at 10 mph, 5 days/wk, 50 wks/yr. Calculating as above, this yields 2 hrs/yr.

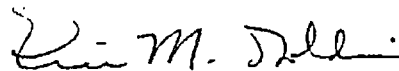
The occupancy for the north and east boundaries, based on the logic above is established at 20 hours/yr.

### West Boundary

The west boundary includes public beach access. Although an individual could not easily obtain access to the actual physical boundary (Unit 1 has a seawall, Units 2/3 have riprap to protect the seawall), it is considered conservative to assume that beach occupancy would be limiting for this boundary. NUREG 1.109 provides guidance that beach occupancy should be established at 67 hrs/yr. The quality of the beaches and weather in Southern California was justification for raising this value by a factor of 3 (Reference: Environmental Report - Operating License Stage, page 5.2-24).

Therefore, the maximally exposed individual for the west boundary was a teenager who receives direct radiation based on beach occupancy of 200 hrs/yr. Adding the assumed occupancy of time swimming of 100 hrs/yr (Reference: ER-OLS, page 5.2-24), yields a total occupancy of 300 hrs/yr.

The occupancy for the west boundary, based on the logic above is established at 300 hours/yr.



ERIC M. GOLDIN  
Health Physics & Environmental

Attachment

cc: E. S. Medling  
M. G. Goeders  
K. C. Yhip  
J. R. Clark  
D. R. Heinicke  
R. L. Miller  
M. Yamaguchi  
R. V. Warnock  
R. S. Schofield  
J. W. Scott  
P. J. Knapp  
-ESM/CDM Files



**Kenneth Leventhal & Company**

August 2, 1991

Mr. Scott Medling  
Nuclear Engineering Safety and Licensing  
c/o Southern California Edison  
23 Parker Street  
Irvine, California 92718

RE: SONGS Land Use Census  
Fence along Southern Perimeter of SONGS

Dear Scott:

In response to your request in the July 12, 1991 meeting to investigate the southern perimeter of the SONGS property line in order to determine possible foot traffic and occupation levels, we conducted a survey of the said area on July 16, 1991.

Upon close examination of the southern perimeter, we found the area to be rather inhospitable. Except for an approximately 8-foot clearing which runs the length of the fence, dense brush covers the entire area in question. Additionally, the bluffs overlooking the beach appear very unstable and evidence of recent collapse is apparent.

Although there are no apparent reasons why anyone would stay near this fence, it would be reasonable to assume that if someone were to remain there for whatever reason, he would be there for a very short time, less than a day - probably less than 8 hours.

If you have any questions, please call me at (213) 277-0880.

Sincerely,

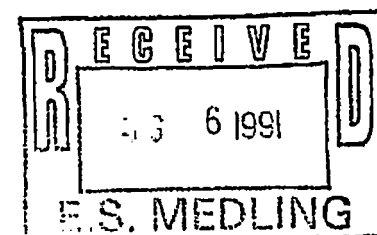
William C. Lawrence  
Director, Predevelopment and  
Public Sector Consulting Services  
for Kenneth Leventhal & Company

cc: Larry Diamond  
Scott Beal  
John So

Certified Public Accountants

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## **ENCLOSURE 2**

Excerpt from SONGS Units 2 and 3 Environmental Report – Operating License Stage



TABLE 5.2-13

## MAXIMUM INDIVIDUAL USAGE FACTORS FOR BEACH ACTIVITIES

PATHWAY	(Hours per year)		
	<u>ADULT</u>	<u>TEEN</u>	<u>CHILD</u>
Shoreline (a)	36	201	42
Swimming (b)	20	100	20
Boating (c)	52	52	29

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(a) Assumed 3 times higher than the standard usage factors given in Reg. Guide 1.109 (Ref.3) because of the favorable southern California climate.

(b) Assumption made for the southern California climate.

(c) Same usage factors as given in Reg. Guide 1.109 (Ref.3).