

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

SOUTHERN CALIFORNIA EDISON COMPANY,
ET AL.

(San Onofre Nuclear Generating
Station, Units 2 and 3)

}
} Docket Nos. 50-361 OL
} 50-362 OL
}

AFFIDAVIT OF BRIAN K. GRIMES

My name is Brian K. Grimes. I am Director, Division of Emergency Preparedness, Office of Inspection and Enforcement, U. S. Nuclear Regulatory Commission, Washington, D. C. My professional qualifications were attached to my June 22, 1981 affidavit in this proceeding. This affidavit is submitted to address the areas of emergency planning earthquake considerations as a supplement to my June 22, 1981 affidavit.

As stated in my affidavit of June 22, 1981 with regard to emergency planning earthquake considerations, a fundamental premise in the approach to emergency planning utilized by the Federal Emergency Management Agency (FEMA) and the NRC is that emergency plans must be developed to facilitate response to a wide spectrum of accidents. This is accomplished by considering a wide spectrum of accidents in the development of a planning basis - a spectrum of accidents which includes rapid releases of large fractions of the reactor core inventory in a short period of time. (All of the WASH-1400 scenarios were considered in NUREG-0396 in developing the planning basis. The PWR-2 accident in the WASH-1400 study would result in ^{prompt} releases of radioactive material comparable to those postulated to result from a catastrophic earthquake in the Board's

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July 29, 1981 Order.) Although such scenarios are of extremely low likelihood, a judgment was made by the staff and the Commission that the planning basis would adequately enhance existing ad hoc capabilities to deal with catastrophic events.

The conclusion of the staff (as reflected in NUREG-0396 and NUREG-0654 and, I believe, by the Commission in its emergency preparedness regulations published on August 19, 1980) was that site specific analyses are not required for the extremely large releases already considered in the generic studies. The Board appears to assume that the lack of such site specific studies is a deficiency which on its face requires additional consideration in this proceeding. I conclude that the Commission's treatment of the accident spectrum question, which included ample opportunity for public comment (both on NUREG-0396 and on the Commission's proposed emergency planning regulations) obviates the need for site specific consequence evaluations with regard to emergency preparedness.

I have several specific comments with respect to the Board Order of July 29, 1981, which relate to the Board's characterization of the staff's position and the clarity of the Board's proposed issue.

First, the staff assumed that roadways could be disrupted even in moderate earthquakes and has required the licensee to have the capability to obtain damage estimates to transportation facilities offsite to provide a data base to factor into the decisionmaking process and to have available a range of recommendations to offsite authorities. Analyses of specific catastrophic earthquake effects are not especially useful to planning as the exact consequences cannot be predicted in advance.

The Board states that the staff has transplanted the SSE concept to emergency preparedness. What the staff in fact argued was that the SSE concept is a meaningful one in any detailed discussion of earthquake considerations in the emergency planning area and is consistent with the staff's application of the planning basis concept which was developed specifically for emergency preparedness considerations to allow generic consideration of a wide spectrum of accidents. The rationale for the emergency planning basis already includes worst case accidents, including those which might be initiated by seismic events. As stated in my June 22, 1981 affidavit "...the characteristics of an accident which could theoretically be created by an earthquake larger than the SSE would not be outside the spectrum of accidents considered in NUREG-0396 upon which the judgment on planning zone sizes and other planning elements were based." The Board is asking for site specific consideration of an accident whose consequences were within the spectrum of accidents considered in developing the Commission's emergency preparedness regulations.

With respect to the Board's proposed issue, the Board ^{appears to} ~~assumes~~ that evacuation is a desirable alternative in the case of a catastrophic earthquake and ^{prompt} ~~release~~ from the facility. Evacuation would not be the appropriate response in such a case. Evacuation is not recommended as the immediate action for any short time scale release where the evacuation is doubtful of completion before the exposure would occur. The staff's recommendations in such an event would be to instruct the population to take shelter (see Appendix 1 of NUREG-0654, p 1-17, General Emergency item 4.c.). The appropriate action after plume passage would then be to relocate exposed individuals out of the contaminated area, which would likely be a narrow area on which deposition of particulate

material occurred during plume passage. This relocation effort would result in available resources being focused on a small area within the plume exposure EPZ but, because of the magnitude of the postulated release, ad hoc efforts would need to be extended well beyond the EPZ under the "footprint" of the plume. Although the events evaluated in WASH-1400 (and presented in NUREG-0396) assumed relocation would occur within about four hours after plume passage, relocation within about one day would still provide substantial benefits in terms of dose reduction.

The above discussion does not treat the other likely effects of such a catastrophic event such as fatalities which would occur if homes collapsed. Those involved in such an earthquake would receive priority attention from the full resources of the U. S. government and such aid would not be restricted to the licensee or the State and local responding jurisdictions as implied in the Board's statement of the issue.

In view of the above discussion, it is not clear what the Board would consider "timely" evacuation or protection for those in the EPZ. The Board should recognize an important aspect underlying the emergency preparedness regulations. That is, in the worst case accidents (from whatever scenario) fatalities cannot be ruled out even with emergency preparedness measures that fully meet the Commission's regulations. The Board assumes that a test of adequacy can be obtained by postulating worst case events while the Commission's regulations take an entirely different approach to the matter.

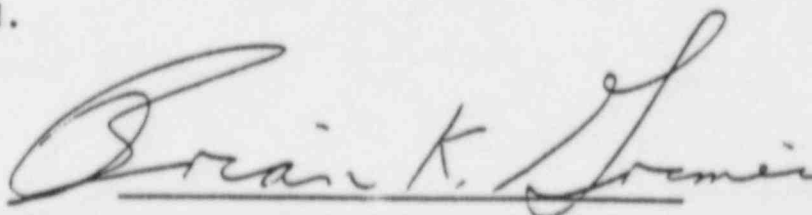
Even if one were to proceed with the Board's approach, it is not clear from the Board's Order whether a discussion of accident consequences is desired.

(The consequences, as noted above would be similar to those of the WASH-1400 PWR-2 case which results in a large, fast release at near-ground level.)

In summary, emergency planning for the San Onofre site has included consideration of both large accidents and earthquake effects. The combination of responses to these effects, while highly dependent on the actual situation, has been considered by providing for a feedback of offsite conditions to the licensee so that recommendations for protective actions related to radiological hazards can be appropriately adjusted. The added postulate of the Board of an extremely large earthquake and radiological hazard does not affect the type of response but only the degree to which additional outside resources would need to be called on to supplement the local and State response. The mechanism for bringing these additional resources into play is the same as in any large disaster situation in which the Federal Emergency Management Agency (FEMA) serves as the coordinator of the total available civilian and military resources of the U. S. Government. The NRC and FEMA staffs could provide testimony on how this is done in practice if this would be of assistance to the Board.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 4, 1981.

A handwritten signature in cursive script, reading "Brian K. Grimes". The signature is written in dark ink and is positioned above a horizontal line.

Brian K. Grimes

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(San Onofre Nuclear Generating Station,)
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CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF COMMENTS WITH RESPECT TO THE BOARD'S ORDER OF JULY 29, 1981 RAISING AN ISSUE CONCERNING EARTHQUAKES AND EMERGENCY PLANNING" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, or as indicated by an asterisk by deposit in the Nuclear Regulatory Commission's internal mail system, this 4th day of August, 1981:

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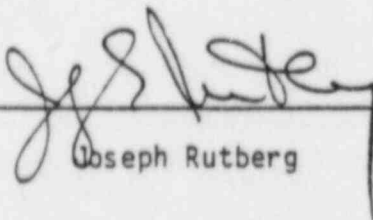
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