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O'Connell

JAN 1 1976

William P. Gammill, Assistant Director
for Site Technology
THRU: J. C. Stepp, Chief, Geology and Seismology Branch

SEISMIC EVENT NEAR O'CONNOR PLANTS

On January 14, 1976 I had a telecon with Dr. Pradeep Talwani, a seismologist at the University of South Carolina. In the conversation he indicated that he was involved in monitoring some earthquakes in the vicinity of Lake Jocassee, South Carolina, approximately 15 miles north of O'Connell 1, 2, 3 nuclear plant. The chronology of his involvement is as follows:

- Lake Jocassee began filling in 1973 and reached full head in March 1975. At that time a. earthquake was felt by one individual near the dam.
- On October 1, 1975 a magnitude 3 earthquake was felt at the dam and Dr. Talwani states, "it shook up the people in the powerhouse." Two days after this event several small aftershocks were picked up with instruments.
- Other events were noted on November 6 and 7 and monitoring was undertaken for 10 days afterwards, a large number of aftershocks were recorded.
- On November 9, Law Engineering, consultants to Duke Power, set up instruments borrowed from Dr. Long and about this same time Dr. Talwani installed a six (6) station network in the area.
- On November 25, 1975, a magnitude 3.2 earthquake was recorded at Lake Jocassee. This event was felt over a large area. Dr. Talwani stated that in his analysis, the epicenters were progressing continually downward. Two hundred aftershocks were recorded. (As per a later conversation with B. Epps of Region II, Office of Inspection and Enforcement, this event tripped a seismic instrument located in the reactor tendon

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gallery. These instruments were set to trip at .01g. One did trip and there has been some difficulty in getting the records analyzed due to closing of the company that supplied the instruments.)

- On December 8, two or three shocks were felt ranging from magnitude 2.5-2.7.
- Dr. Talwani also stated that there have been a number of other events of magnitude 2 or more.

In a later telecon with Bud Epps of Region II, Office of Inspection and Enforcement, he stated that he was aware of the early fall event, probably October 1, 1975 and the November 25 earthquake. The former was not felt at the plant, the latter was discussed earlier. He has received telephone communication on a number of occasions when earthquakes were noted at Lake Jocassee but only the November 25 shock caused the seismic instruments to be triggered.

Robert E. Jackson
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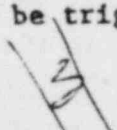
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