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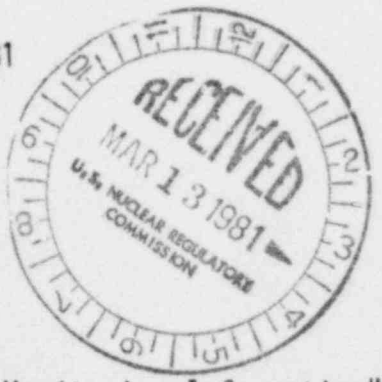
UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

Docket No. 50-271

MAR 2 1981



Vermont Yankee Nuclear Power Corporation
ATTN: Mr. Robert L. Smith
Licensing Engineer
1671 Worcester Road
Framingham, Massachusetts 01701

Gentlemen:

The enclosed IE Circular No. 81-03, "Inoperable Seismic Monitoring Information" is forwarded to you information. No written response is required. If you desire additional information regarding this matter, please contact this office.

Sincerely,

Boyce H. Grier

Boyce H. Grier
Director

Enclosures:
1. IE Circular No. 81-03
2. List of Recently Issued IE Circulars

CONTACT: S. D. Ebneter
(215-337-5266)

cc w/encls:
Mr. Warren P. Murphy, Plant Superintendent
Mr. W. F. Conway, Vice President and Manager of Operations
Mr. J. E. Griffin, President
Mr. L. H. Heider, Vice President

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IEC 81-03

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

March 2, 1981

IE Circular No. 81-03: INOPERABLE SEISMIC MONITORING INSTRUMENTATION

Description of Circumstances:

On November 8, 1980, an earthquake occurred off the coast near Eureka, California. The earthquake was reported to have a magnitude of 7.0 on the Richter Scale at the epicenter, approximately 25 to 75 miles from the Humboldt Bay Power Plant facility. There were 12 separate seismic events above a magnitude of 3.5 that occurred within 24 hours of the earthquake, the largest event measuring 5.2. Reported damage to structures included several houses that were moved off supporting posts, various chimneys that were knocked down, one highway overpass that collapsed, and unspecified damage that occurred at two pulp mills. There were three potentially different sources of plant response data: three sets of magnetic tape triaxial accelograph recorders; three sets of triaxial film recorders (passive device); and one set of triaxial response spectrum recorders (passive device). A review of the records from these instruments indicated the following: the magnetic tape triaxial recorders did not produce useful records due to a degraded low-voltage power supply in the recording system (previously scheduled for routine servicing one week after the earthquake); a buildup of dirt and dust appeared to make inoperable six of the nine film recorders (the readings from the other three are considered highly unreliable and were not obtained from the same set of triaxial recorders); the triaxial response spectrum recorder was the only instrument believed to produce reliable data.

On January 24, 1980, an earthquake measuring 5.5 on the Richter Scale occurred about 10 miles north of Lawrence Livermore Laboratory (near San Francisco, California). Numerous aftershocks also occurred with one measuring 5.2 on January 26. The damage to civil structures was considered minor. Rancho Seco Nuclear Plant, located approximately 45 miles northeast of the earthquake area, reported no physical damage, although plant personnel felt slight building motion.

Rancho Seco was shutdown for refueling during these earthquakes. During this period, the electrical seismic instrumentation system was inoperable because portions of the system were out for calibration. For the other instruments, power was not being supplied due to electrical cable problems. Whether the seismic instrumentation would have
U.S. Geological Survey equipment cl
from a passive recorder showed peak