

June 24, 1981

In reply, please  
refer to LAC-7625

DOCKET NO. 50-409

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

SUBJECT: DAIRYLAND POWER COOPERATIVE  
LA CROSSE BOILING WATER REACTOR (LACBWR)  
PROVISIONAL OPERATING LICENSE NO. DPR-45  
SEP TOPIC II.4.C  
HISTORICAL SEISMICITY WITHIN 200 MILES OF PLANT

REFERENCE: (1) DPC Letter, LAC-7387, Linder to Eisenhut,  
dated February 27, 1981.

Gentlemen:

Enclosed find Safety Evaluation Report (SER) for Historical Seismicity  
Within 200 Miles of Plant (SEP-II.4.C) which we have prepared for the  
La Crosse Boiling Water Reactor.

Our letter, Reference 1, identified topics for DPC to submit for NRC  
evaluation. The subject topics were listed in the schedule submitted  
with Reference 1.

If there are any questions regarding this letter, please contact us.

Very truly yours,

DAIRYLAND POWER COOPERATIVE

*Frank Linder*

Frank Linder, General Manager

FL:JDP:ee

cc - J. G. Keppler, Reg. Dir., NRC-DRO III  
NRC Resident Inspectors

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LA CROSSE BOILING WATER REACTOR  
SYSTEMATIC EVALUATION PROGRAM  
SAFETY EVALUATION REPORT  
TOPIC II.4.C  
HISTORICAL SEISMICITY WITHIN 200 MILES OF PLANT

The safety objective of this topic is to ensure that an accurate depiction of historic seismic events is utilized in determining a Safe Shutdown Earthquake (SSE).

The La Crosse Boiling Water Reactor is located on the eastern shore of the Mississippi River approximately 19 miles south of the City of La Crosse, Wisconsin.

The site is in a tectonically stable area where no earthquakes causing major damage have been experienced during the history of earthquake observation. The Uniform Building Code, 1958 Edition, includes the site in Zone 0 (No Damage).

The attached list (Figure 1) relates all historical seismic events within 200 miles of the plant by geographical distance and orientation.

It is noted that no seismic events have occurred within 100 statute miles of the facility. Only 4 seismic events were recorded within 200 miles. The closest of these was in Illinois, approximately 125 statute miles from the plant.

This concludes this SEP Topic review.

HISTORIC SEISMICITY - LA CROSSE SITE

<u>date</u>	<u>geographic location</u>	<u>latitude</u>	<u>longitude</u>	<u>distance from site/direction*</u>	<u>magnitude</u>	<u>reference</u>
09-15-1972	Illinois	41.6	89.4	147 mi/213 <sup>o</sup> T	VI	3,9
11-12-1934	Rock Island, Ill.	41.5	90.5	135 mi/188 <sup>o</sup> T	VI	2,9
05-26-1909	Illinois	42.5	89.0	125 mi/235 <sup>o</sup> T	VII	2,4,7,8
08-24-1804	Fort Dearborn	42.0	87.8	200 mi/240 <sup>o</sup> T	---	2,6,10

\* Statute Miles

## REFERENCES

- (1) Hazards Summary Report for Construction Authorization of the La Crosse Boiling Water Reactor prepared for the United States Atomic Energy Commission under AEC Contract No. AT (11-1)-850. October, 1962. ACNP 62574.
- (2) "Earthquake History of the United States", Publication 41-1 Revised Edition (Through 1970) U. S. Dept. of Commerce National Oceanic and Atmospheric Administration Environmental Data Service
- (3) "Earthquake History of the United States", Publication 41-1 Revised Edition (1971-1976 Supplement) U. S. Dept. of Commerce National Oceanic and Atmospheric Administration Environmental Data Service
- (4) Bulletin of the Seismological Society of America. Annual volumes since 1911. Reference is by volume. The year may be obtained by adding 10 to the volume number. Published for the Society by Stanford University Press through the No. 2 issue of 1934, by the University of California Press through 1960, and by the Waverly Press, Baltimore, Md., thereafter.
- (5) Hobbs, William Herbert, "Earthquakes in Michigan," Michigan Geological and Biological Survey, Publication 5, Geological Series 3, pp.69-87, Lansing, Mich., 1911.
- (6) "Earthquakes of the Western United States," Atlantic Monthly, Vol. 24, pp. 550-551, November, 1869.
- (7) Popular Science. Reference is made in the same manner as for American Journal of Science and Arts.
- (8) Udden, J. A., Transactions of the Illinois Academy of Sciences, Vol. 3, p. 132, 1910.
- (9) UNITED STATES EARTHQUAKES, Annual publication of the U. S. Department of Commerce, Coast and Geodetic Survey from 1928 through 1968, the NOAA National Ocean Survey for 1969, and the NOAA Environmental Data Service, 1970.
- (10) Moneymaker, Berlen C., A series of four articles published in Journal of the Tennessee Academy of Science: "Some Early Earthquakes in Tennessee and Adjacent States, 1699 to 1850," Vol. 29, No. 3, July 1954; "Earthquakes in Tennessee and Nearby Sections of Neighboring States, 1851-1900," Vol. 30 July 1955; "Earthquakes in Tennessee and Nearby Sections of Neighboring States, 1901-1925," Vol. 32, No. 2, April 1957; and "Earthquakes in Tennessee and Nearby Sections of Neighboring States, 1926-1950," Vol. 33, No. 3, July 1958.

**POOR ORIGINAL**