NRC PDR

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

August 29, 1980

Docket No. 50-409

Mr. Frank Linder
General Manager
Dairyland Power Cooperative
2615 East Avenue South
LaCrosse, Wisconsin 54601

Dear Mr. Linder:

Please find enclosed a Safety Evaluation concerning liquefaction potential at the LaCrosse site. This document was prepared by the Office of Nuclear Reactor Regulation as part of the staff's evaluation of your response to my Order to Show Cause of February 25, 1980, and a further request for information under 10 CFR 50.54(f) (dated April 25, 1980). Based on the staff's evaluation of information provided in response to the February 25th Order and the April 25th request under 10 CFR 50.54(f), I have determined that Dairyland Power Cooperative has shown adequate cause why it should not submit a detailed design proposal for a site dewatering system and why it should not make such a system operational by February 25, 1981, or shut down the LaCrosse Boiling Water Reactor.

A copy of this letter and the enclosed evaluation will be filed with the Coulee Region Energy Coalition and Frederick M. Olsen, III, who have requested a hearing on the Order to Show Cause, and with the Atomic Safety and Licensing Board convened to rule on these requests.

Sincerely,

Harold R. Denton

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosure:
Safety Evaluation

cc w/enclosure:

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cc w/enclosure:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO LIQUEFACTION POTENTIAL AT THE LA CROSSE SITE

DAIRYLAND POWER COOPERATIVE

DOCKET NO. 50-409

1.0 Introduction

Dairyland Power Cooperative's (the licensee) site for the La Crosse Boiling Water Reactor is located on the east bank of the Mississippi River approximately one mile south of Genoa, Wisconsin.

The major structures at the site include the Reactor, Turbine, Diesel Generator and Waste Disposal Buildings, the stack and the gas vault. All of these structures are supported on pile foundations. The crib house and circulating water system are also important components. Figure 1 shows a plan view of the plant layout.

2.0 Background

The initial soils investigation at the La Crosse site was conducted in 1962. Due to the low densities of the sands encountered at the site and the concern for settlement, piles were required to support structural loads for most of the safety related structures. The Construction Permit was granted in 1963 and the Operating License was issued in 1967.

In 1973, an additional investigation was performed by Dames and Moore, to provide seismic design information in support of an application for a full-term operating license. These studies included an evaluation of the geology, seismology and liquefaction potential. Six test borings (DM-1 thru DM-6) were performed to depths ranging from 131 to 148 feet. Soil Samples were obtained with the Osterberg, Dames & Moore and split spoon samplers. A laboratory testing program was conducted to provide data for a liquefaction evaluation.

The La Crosse plant is founded on loose to medium dense sand deposits and hydraulic fill. About 20 feet of hydraulic fill was placed over the site to raise plant grade to elevation 639. The hydraulic fill is a brown medium to coarse sand. Under the hydraulic fill is a nearly continuous layer of dark gray clayey silt and very silty fine sand which is about five feet thick. This dark gray soil is absent near the existing river bank (Boring DM-11) and under the containment and stack foundation. It wa