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October 23, 1979

Sheldon J. Wolfe, Esquire
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory
Commission
Washington, D.C. 20555

Mr. Frederick J. Shon, Member
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory
Commission
Washington, D.C. 20555

Dr. Paul W. Purdom, Director
Environmental Studies Group
Drexel University
32nd and Chestnut Streets
Philadelphia, Pennsylvania 19104

Re: In the Matter of the Application of Public
Service Company of Oklahoma, Associated Electric
Cooperative, Inc. and Western Farmers Electric
Cooperative (Black Fox Station, Units 1 and 2),
Docket Nos. STN 50-556 and STN 50-557

Gentlemen:

I am enclosing a copy of a letter, dated October 19, 1979, from Applicants' Manager of the Black Fox Station Nuclear Project to the NRC Staff. Mr. Ewing's letter confirms several conversations with the NRC Staff concerning the excavation of the foundation area for Unit 2. This work was authorized by the NRC Staff on November 30, 1978 when it issued Amendment 2 of the Limited Work Authorization for the Black Fox Station.

Overexcavation of the Unit 2 foundation area was necessary to remove certain underlying soft, siltstone material, and as Mr. Ewing's letter indicates, this material will be replaced with concrete fill to bring the excavation surface to design grade. Thus the Unit 2 structures could be supported on fill concrete founded directly on the same competent siltstone as for Unit 1.

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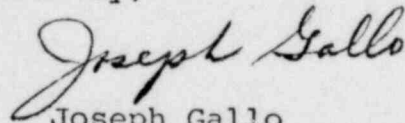
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One aspect of this activity, i.e., the effect of the concrete fill on the dynamic responses of safety-related structures, may relate to Contentions 3 and 16 concerning containment design for the Black Fox Station. Although the matter is being examined, it would appear that the inquiry involves the type of design activity normally encountered during the evolution from preliminary to final design. (See, e.g., the analogous discussion appearing at pages 9-10 of Mr. Guyot's testimony following Tr. 7546, and Tr. 7616 and 7623-24).

The analyses referred to in Mr. Ewing's letter will be sent to the Licensing Board and parties as soon as they become available.

I am also enclosing a copy of the NRC Staff's letter, dated October 10, 1979, for everyone's information. This letter sets forth the generic requirements for CP applicants which resulted from the Staff's assessment of the Three Mile Island accident.

Sincerely,



Joseph Gallo
One of the Attorneys
for the Appoicants

cc: Licensing Board Service List

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PUBLIC SERVICE COMPANY OF OKLAHOMA
A CENTRAL AND SOUTH WEST COMPANY

P.O. BOX 201 / TULSA, OKLAHOMA 74102 / (918) 583-3611

Public Service Company of Oklahoma
Black Fox Station Units 1 and 2
Excavation Seal Unit 2
U.S. NRC Docket No. STN 50-556, 50-557

October 19, 1979
File 6212.125.3500.21L

Mr. Steven A. Varga, Assistant Director
Division of Project Management
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20002

Dear Mr. Varga:

This letter updates and confirms several conversations concerning the excavation of Unit 2 which took place between representatives of PSO and the technical staff of NRR and I&E Region IV during the latter part of July and mid-August of this year. During these discussions, we reported the preliminary results of the field testing activities which were completed in the foundation area for Unit 2 structures and the recommendations of our Architect-Engineer regarding the nature of the subgrade material found in the Unit 2 excavation area.

Excavation for Unit 2 was authorized under Amendment 2 of the Limited Work Authorization on November 30, 1978. The initial work commenced in December, 1978, resumed in April, 1979 after the unusually severe winter forced shutdown and reached the base foundation elevation in mid-June. At that time, field tests showed that a soft, siltstone layer underlaid a large portion of the excavation surface at depths ranging from two to seven feet. Our Architect-Engineer recommended that the depth of the excavation in the Unit 2 foundation areas be extended to remove the soft siltstone layer. Subsection 2.5.4 of the BFS Preliminary Safety Analysis Report predicted such overexcavation below the base foundation elevation and stated that these areas would be backfilled with lean concrete.

As discussed previously with Dr. Cecil O. Thomas, Licensing Project Manager of NRR and William A. Crossman, Chief, Projects Section, I&E Region IV, the soft, siltstone layer material has now been removed from the excavation area, and a nominal six-inch concrete seal coat has been applied to protect the underlying rock structure from weathering.

In order to bring the entire excavation up to design base foundation elevation, a mass fill of lean concrete will be required. The Unit 2 structures (i.e., the

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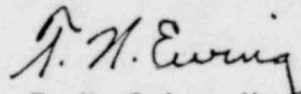
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fuel building, the reactor building, and auxiliary building) would therefore be supported on fill concrete founded directly on the same competent siltstone as Unit 1. However, in accordance with our oral commitment to Mr. Thomas, we intend to provide the NRC Staff with certain analyses prior to taking this action. These analyses involve an assessment of the strength of the concrete as a foundation material as compared with the natural rock structure and the effect of this relative thick concrete fill on the dynamic responses of the safety-related structures.

During our previous discussions, we expected to supply these analyses within a 30 to 60 day time period for Staff review. Unfortunately due to manpower constraints associated with reviewing the Staff's TMI requirements in preparation for our upcoming hearing, we have fallen behind schedule in providing you with this information.

We will advise you further when the engineering effort on the analyses work is completed.

Very truly yours,



T. N. Ewing, Manager
Black Fox Station Nuclear Project

TNE:VLC:jk

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cc: BFS Service List

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

October 10, 1979

(TO ALL PENDING CONSTRUCTION PERMIT APPLICANTS)

Gentlemen:

SUBJECT: FOLLOWUP ACTIONS RESULTING FROM THE NRC STAFF REVIEWS REGARDING
THE THREE MILE ISLAND UNIT 2 ACCIDENT

Over the past several months following the Three Mile Island accident, the NRC staff has been conducting an intensive review of the design and operational aspects of nuclear power plants and the emergency procedures for coping with potential accidents. The purpose of these efforts was to identify measures that should be taken in the short-term to reduce the likelihood of such accidents and to improve the emergency preparedness in responding to such events. To carry out this review, efforts within NRR were established in four areas: (a) licensee emergency preparedness, (b) operator licensing, (c) bulletins and orders followup (primarily in the areas of auxiliary feedwater systems reliability; loss of feedwater and small break loss-of-coolant accident analysis; emergency operating guidelines and procedures) and (d) Short-Term Lessons Learned.

The purpose of this letter is to provide for planning and guidance purposes the NRR staff position on the status and applicability of the results of these efforts to pending construction permit applications. The Commission may add to or modify these staff positions after reviewing them. Additional staff requirements may be developed as NRR's Lessons Learned Task Force completes its long-term recommendations. Several other investigations, including the Presidential Commission and NRC's Special Inquiry Group, can be expected to lead to additional requirements.

Lessons Learned Task Force Report

The principal element of the staff activities listed above is contained in the report titled, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations" (NUREG-0578), a copy of which was previously sent to you. The Task Force report contains a set of recommendations to be implemented in two stages over the next 16 months on operating plants and pending operating license applications. The Task Force recommended 20 licensing requirements and three rulemaking matters in 12 broad areas.

The Advisory Committee on Reactor Safeguards has completed its review of the Task Force report. The several public meetings of the ACRS subcommittee on TMI 2 and the public meeting of the

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ENCLOSURE 1

UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

August 13, 1979

Honorable Joseph M. Hendrie
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: SHORT-TERM RECOMMENDATIONS OF TMI-2 LESSONS LEARNED TASK FORCE

Dear Dr. Hendrie:

During its 232nd meeting, August 9-11, 1979, the Advisory Committee on Reactor Safeguards completed a review of the short-term recommendations of the TMI-2 Lessons Learned Task Force as reported in NUREG-0578. These recommendations had been reviewed, in part, by an ACPS Subcommittee at a meeting in Washington, D.C., on July 27, 1979. During its review the Committee had the benefit of discussions with members of the Task Force. Comments from representatives of the nuclear industry were also considered.

In its review, the Committee has noted that the recommendations in NUREG-0578 are those deemed by the Task Force to be required in the short term to provide substantial additional protection for the public health and safety.

The Committee has considered both the recommendations themselves and the schedules proposed for their implementation. Regarding the latter, the Committee believes that the orderly and effective implementation and the appropriate level of review and approval by the NRC Staff will require a somewhat more flexible, and in some cases more extended, schedule than is implied by NUREG-0578.

With regard to the requirements themselves, the Committee agrees with the intent and substance of all except those discussed below.

2.1.5 Post-Accident Hydrogen Control Systems

a. The Committee agrees with the recommendations relating to dedicated penetrations for external recombiners or purge systems for operating plants that have such systems.

b. and c. The majority of the Task Force has recommended rule-making to require inerting of BWR Mark I and II reactors. A minority of the Task Force has recommended rule-making to require that all operating light water reactors provide the capability to use a hydrogen recombiner.

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The Committee believes that questions relating to hydrogen generation during and following an accident, the rate and amount of generation, the need to control it, and the means of doing so, need to be reexamined. The Task Force has advised the Committee that it is considering this question further in connection with its longer-term recommendations which are scheduled to be completed by September, 1979. The ACRS believes that decisions concerning possible additional measures to deal with hydrogen should be deferred pending early evaluation of the forthcoming longer-term Task Force recommendations.

2.1.8 Instrumentation to Follow the Course of an Accident

With regard to instrumentation to follow the course of an accident, the ACRS believes that containment pressure, containment water level, and on-line monitoring of hydrogen concentration in the containment should also be considered for implementation for all operating reactors on the same schedule as that recommended by the Lessons Learned Task Force.

2.2.1.b Shift Technical Advisor

The Committee agrees completely with the two closely related objectives of this recommendation. One relates to the presence in the control room during off-normal events of an individual having technical and analytical capability and dedicated to concern for safety of the plant. The other relates to the need for an on-site, and perhaps dedicated, engineering staff to review and evaluate safety-related aspects of plant design and operation. The achievement of these objectives will contribute significantly to the safe operation of a plant.

The Committee believes that there may be difficulty in finding a sufficient number of people with the required qualifications and interest in shift work to fill the Technical Advisor positions. The Committee therefore believes the solution proposed by the Staff should not be mandatory but that alternate solutions also should be considered.

2.2.3 Revised Limiting Conditions for Operation

The Committee agrees with the findings of the Task Force that there are too many human or operational errors resulting in the defeat of an entire safety system, that the number of such occurrences should be and can be reduced, and that the ultimate responsibility for doing this must rest with the licensee.

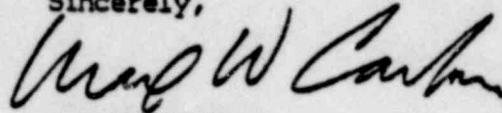
The Committee, however, is not convinced that the Task Force proposal is the best or only way to increase the licensee's awareness of the

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August 13, 1979

need to improve operational reliability, and suggests that measures short of shutdown, such as a rule that requires actions similar to those of a show-cause order, may be equally effective.

Sincerely,



Max W. Carbon
Chairman

References:

1. NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations," Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, July 1979.
2. Letter, D. Knuth, President, KMC, Inc., to Harold Denton, Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, August 8, 1979, Subject: TMI-2 Lessons Learned Task Force Report (NUREG-0578).
3. Letter, Stanley Ragone, President, Virginia Electric and Power Company, to Joseph M. Hendrie, Chairman, U.S. Nuclear Regulatory Commission, August 8, 1979, Subject: Lessons Learned Task Force on TMI-2, NUREG-0578.
4. Letter, Floyd W. Lewis, Chairman, Ad Hoc Nuclear Oversight Committee, to Harold R. Denton, Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, August 1, 1979, Subject: Lessons Learned from TMI-2.
5. Letter, American Nuclear Society, ANS-3 Committee, to Joseph M. Hendrie, Chairman, U.S. Nuclear Regulatory Commission, August 2, 1979, Subject: Lessons Learned Task Force Status Report NUREG-0578.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

August 15, 1979

MEMORANDUM FOR: Chairman Hendrie
FROM: Raymond F. Fraley, *RFF* Executive Director, ACRS
SUBJECT: ADDITIONAL REFERENCES TO ACRS LETTER ON SHORT-
TERM RECOMMENDATIONS OF TMI-2 LESSONS LEARNED
TASK FORCE DATED AUGUST 13, 1979

The attached revised Page 3 of the subject letter should
be substituted for the one which was originally sent to you.
This page incorporates additional references 6, 7, and 8.

Attachment:
Revised Page 3

cc:
Commissioner Gilinsky
Commissioner Kennedy
Commissioner Bradford
Commissioner Ahearne

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Entire document previously
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ANO 7908220221
No. of pages: 38