

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

**INFORMATION REPORT**  
**ADJUDICATORY**

October 24, 1980

SECY-A-80-162

For: The Commissioners

From: Martin G. Malsch  
Deputy General Counsel

Subject: Director's Denial of 2.206 Relief (In the  
Matter of Tennessee Valley Authority)

Facility: Sequoyah Nuclear Plant, Unit 1

Purpose: To inform the Commission of the denial of a  
request to revoke the Sequoyah Low-Power Test  
License because of concerns related to hydrogen  
generation in ice-condenser containments.

Review Time  
Expires: November 12, 1980

Discussion: On May 28, 1980 the Nuclear Regulatory Commission  
(TNRC, a musical group) requested that the Com-  
mission revoke the license authorizing TVA to  
conduct a low power test program at the Sequoyah  
facility. Petitioners argued that the ice-  
condenser pressure suppression containment system  
employed at Sequoyah could not withstand a TMI-2  
type accident that produced large amounts of  
hydrogen. The NRC staff, the ACRS, and the  
Commission examined this issue in some depth  
before the Commission issued its order on Septem-  
ber 17, 1980 directing the NRC staff to issue a  
full-power operating license for the Sequoyah  
facility, subject to several conditions relating  
to hydrogen control measures.

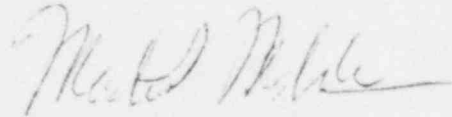
In light of this recent NRC examination of the  
issues raised by TNRC, the Director, NRR, on  
October 8, 1980, denied the TNRC petition. He  
stated that the NRC reviews and the placement of  
license conditions on the operating license ade-  
quately address the concerns TNRC raised.

CONTACT:  
Trip Rothschild, OGC  
4-1465

8011050394

OGC believes that the Director's decision correctly reiterated Commission policy on hydrogen control at the Sequoyah facility and, therefore, his decision does not constitute an abuse of discretion.

Recommendation: No Commission review.\*



Martin G. Malsch  
Deputy General Counsel

Attachments:

1. Director's denial
2. 2.206 petition

\*SECY Note: This paper has been issued as an adjudicatory information item because the General Counsel considers this to be a matter of minor significance.

DISTRIBUTION

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Attachment 1

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION  
HAROLD R. DENTON, DIRECTOR

DD-80-31

In the Matter of )

TENNESSEE VALLEY AUTHORITY )  
(Sequoyah Nuclear Plant, )  
Unit 1) )

Docket No. 50-327  
(10 CFR 2.206)

October 8, 1980

DIRECTOR'S DECISION UNDER 10 CFR 2.206

By petition dated May 29, 1980, "The Nuclear Regulatory Commission" (TNRC, a five-member musical group) requested that the Nuclear Regulatory Commission (NRC) revoke the license issued to conduct the low power test program at the Sequoyah facility in order to protect the public health and safety. The petition also requested such other action as may be proper. This request has been considered under the provisions of 10 CFR 2.206 of the Commission's regulations. Notice of receipt of the petition was published in the Federal Register on July 3, 1980 (45 FR 45429).

TNRC's concern with respect to low power operation was based upon the potential failure of the ice-condenser pressure suppression containment system employed at the Sequoyah facility. Containment integrity is not a safety concern during the conduct of low power testing. The issue of containment integrity during low power testing was examined by the NRC staff. The staff considered whether a  
operations would likely lead to significant  
(on) even under severely degraded ECCS  
time available to take corrective action

DUPLICATE DOCUMENT

Entire document previously  
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ANO 8010240023

No. of pages: 4

Attachment 2

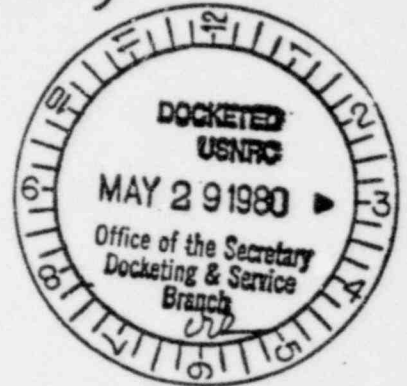
DOCKET NUMBER

PROD. & UTIL. EAG.

50-327-328  
(2.206)

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION



Petition by

THE NUCLEAR REGULATORY COMMISSION

Petitioner, the Nuclear Regulatory Commission (TNRC), a five-member musical group located at 156 Drakes Lane, Summertown, TN 38483, requests under 10 CFR §§ 2.206, 2.202, 50.35, and 55.40 that the United States Nuclear Regulatory Commission (USNRC) revoke the limited Operating License of the Tennessee Valley Authority (TVA) to perform low power testing of the Sequoyah Nuclear Plant (SQNP) because public health and safety is endangered by even limited operation of this facility.

Prior to the March 28, 1979 accident at the Three Mile Island Nuclear Plant (TMI), SQNP Unit 1 was constructed to withstand a pressure on the containment vessel of only 12 pounds per square inch (psi), based upon Westinghouse and TVA belief that the ice-condenser pressure-suppression system would be adequate to keep temperatures of small amounts of hydrogen, as well as steam, below potentially explosive levels. Neither TVA nor USNRC anticipated a hydrogen explosion of the magnitude experienced at TMI when SQNP was constructed.

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*3071 3035*

At 9 hours, 50 minutes into the accident at TMI, there was a sudden pressure spike of 28 to 120 psi to the containment building of TMI Unit 2 caused by hydrogen combustion. The estimated quantities of hydrogen produced during the TMI accident imply oxidation of 45 to 50 percent of the available zirconium cladding. This degree of oxidation is consistent with an estimated 40 to 50 percent of core damage obtained by measurements of cesium and iodine in TMI primary coolant. Prior to TMI, liberation of hydrogen in these quantities, 400-450 kilograms, was thought to be very unlikely by USNRC.

A hydrogen combustion pressure spike of the magnitude experienced at TMI would exceed SQNP containment pressure rating as built and could result in a loss of containment vessel integrity, an essential barrier to the environment.

Under some circumstances, actual structural material strengths will withstand pressure loads which exceed design specifications. These circumstances depend upon the particular and unique stress pattern created by the single-occurrence event causing pressure to exceed design limits, which is not predictable. Safety dictates therefore that design specifications should not be regarded as "exceedable."

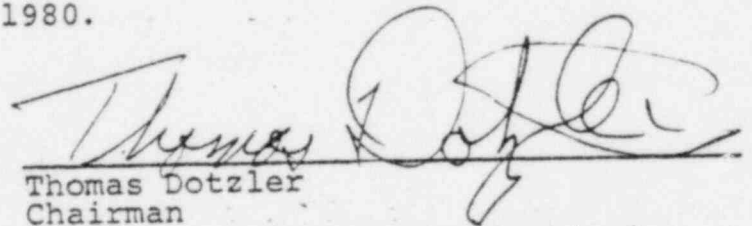
In light of operating experience obtained at TMI, a multiple-failure accident sequence, significant core damage, hydrogen liberation and combustion, and major metal-water reactions must be regarded as plausible occurrence in large, pressurized-water reactors. The containment building at Sequoyah Unit 1 could provide inadequate protection in the

event of a TMI-type accident. A multiple-failure accident sequence and fuel damage could occur within SQNP at even the low power levels currently generated. SQNP Unit 1 as built would provide even less protection from an accident of this type than did TMI Unit 2.

10 CFR § 50.35 provides that a license to operate will not be issued until the final design provides reasonable assurance that the health and safety of the public will not be endangered by operation of the facility. 10 CFR § 55.40(b) provides that any license may be revoked because conditions revealed by any means would have warranted the Commission to refuse to grant a license on the original application.

Therefore the petitioner requests that the limited Operating License of Sequoyah Unit 1 be revoked in order to protect the public health and safety, and for such other action as may be proper. This revocation should be made effective immediately.

Dated this 28th day of May, 1980.



Thomas Dotzler  
Chairman  
The Nuclear Regulatory Commission  
The Farm  
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