

ENCLOSURE 4

ORIGINAL TRANSMITTAL ON ABSCE  
MAR 29 1976

Director of Nuclear Reactor Regulation  
ATTN: Mr. Karl Kniel, Chief  
Light-Water Reactor Branch, 2-2  
Division of Reactor Licensing  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Dear Mr. Kniel:

In the Matter of the ) Docket Nos. 50-327  
Tennessee Valley Authority ) 50-328

Enclosed for your review is TVA's proposal for an interim  
auxiliary building secondary containment enclosure (ABSCE)  
to be used during construction of unit 2 of the Sequoyah  
Nuclear Plant.

Very truly yours,

J. E. Gilleland  
Assistant Manager of Power

*in del*  
LMM: DLL: AWM

Enclosures: 4

CC: Mr. M. A. Siano, Project Manager  
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COORDINATED: JWH/DPP & CRM/DED

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## ENCLOSURE

### INTERIM AUXILIARY BUILDING SECONDARY CONTAINMENT ENCLOSURE

#### Background

The auxiliary building secondary containment enclosure (ABSCE) is that portion of the auxiliary building which serves to maintain an effective barrier for airborne radioactive contaminants released in the auxiliary building during abnormal events. Mechanical and electrical penetrations of this enclosure are provided with seals to minimize infiltration; airlock-type doors are provided at all portals. A negative pressure is maintained within the ABSCE to ensure that no contaminated air is released to the environs following an abnormal event without first being processed by an air cleanup unit, the Auxiliary Building Gas Treatment System (ABGTS). The ABSCE is outlined in FSAR figures 6.2-4 through 6.2-8.

The present construction schedule indicates that an eight-month interval will exist between startup of unit 1 and completion of unit 2. During this time period, construction activity will continue on the unit 2 portion of the plant. Consequently, it cannot be assured that the ABSCE boundary is complete or that all penetrations of the boundary are installed and sealed during the interim period. Thus an interim ABSCE has been defined for the interval between completion of unit 1 and completion of unit 2. This will permit operation of unit 1 while unit 2 is still under construction by ensuring that an auxiliary building secondary containment capability is maintained.

#### Description

The interim ABSCE is shown as diagonally striped areas on the attached drawings. The enclosure includes the fuel handling area and other areas in which significant airborne contamination may originate. The waste gas decay tanks and certain other equipment which may handle radioactive gases are not included within the interim ABSCE since filtration by the ABGTS would have little effect on the gases released by this equipment. Additionally, the concentration of iodines in the gases is expected to be quite low since the probability of having significant amounts of failed fuel present in unit 1 during the initial phases of operation is small.

All doors and penetrations of the interim ABSCE perimeter are provided with seals to reduce infiltration. Doors entering the area are either locked or under administrative control during all reactor unit 1 operations in the interim period.

Redundant isolation dampers are provided in ducts which pass from areas inside the interim ABSCE to areas outside of the enclosure. These permit isolation of the interim ABSCE and allow the Auxiliary Building Gas Treatment System to maintain a negative pressure in the area following an abnormal event.

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### Operation

The interim ABSCE has no effect on the normal operation of the ventilation system in the auxiliary building. The ventilation system will be balanced to maintain a slightly negative pressure within the interim ABSCE during normal operation. Portions of the ventilation system serving areas outside of the interim ABSCE will also be balanced to maintain a slightly negative pressure in those peripheral areas. The capability to accomplish this may be limited for short periods of time in certain peripheral areas still under construction due to the presence of construction openings.

In addition, redefining the ABSCE for the interim period has no effect on operation of the AEGTS. The AEGTS maintains a negative pressure in the interim ABSCE during emergency operation and processes all auxiliary building exhaust just as it would in the ABSCE defined for 2-unit operation of the plant. Either train of the AEGTS may be used to maintain the negative pressure and treat air exhausted from the interim ABSCE.

Isolation of the interim ABSCE is initiated by the same signals which initiate isolation of the ABSCE defined for 2-unit operation. These signals are a phase A containment isolation signal, a high radiation signal from the fuel handling area radiation monitors, or a high radiation signal from the auxiliary building exhaust vent. Any one of these signals will automatically cause the AEGTS to begin operation and all isolation dampers in the interim ABSCE boundary to close.

Proper actuation of the isolation dampers associated with the interim ABSCE and operation of the AEGTS will be confirmed during preoperational testing of unit 1. Tests will be similar to those planned to verify proper isolation of the ABSCE defined for 2-unit operation of the plant and will verify the capability to maintain a negative pressure in the isolated area.

### Recovery to 2-Unit Operation

The interim ABSCE will be utilized only during the interval between completion of unit 1 and completion of unit 2. Prior to startup of unit 2, preoperational tests will be conducted to verify proper isolation of the ABSCE defined for 2-unit operation and to verify the capability to maintain a negative pressure within the ABSCE. Following the unit 2 preoperational tests, isolation dampers installed in the interim ABSCE boundary will be disconnected from their power source and locked in the open position or removed from the duct system. Seals provided in electrical and piping penetrations of the interim boundary will remain in place. At no time in the recovery activities will the auxiliary building secondary containment capability for unit 1 be degraded.

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