



UNITED STATES  
 NUCLEAR REGULATORY COMMISSION  
 REGION II  
 101 MARIETTA ST., N.W., SUITE 3100  
 ATLANTA, GEORGIA 30303

Report Nos. 50-327/79-48 and 50-328/79-26

Licensee: Tennessee Valley Authority  
 500A Chestnut Street Tower II  
 Chattanooga, Tennessee 37401

Facility Name: Sequoyah Nuclear Plant

Docket Nos. 50-327 and 50-328

License Nos. CPPR-72 and CPPR-73

Inspection at: Sequoyah Nuclear Plant near Chattanooga, Tennessee

Inspectors:	<u><i>L. L. Jackson</i></u>	<u>10/17/79</u>
	L. L. Jackson	Date Signed
	<u><i>R. W. Zavadowski</i></u>	<u>10/17/79</u>
	for R. W. Zavadowski	Date Signed
Approved by:	<u><i>A. F. Gibson</i></u>	<u>10/17/79</u>
	for A. F. Gibson, Section Chief, FFMS Branch	Date Signed

SUMMARY

Date of Inspection: September 10-14, 1979

Areas Inspected

This routine, unannounced inspection involved 68 inspector-hours onsite in the areas of gaseous effluent monitoring, gaseous effluent filtration systems, health physics retraining and general plant familiarization.

Results

Of the four areas inspected, no apparent items of noncompliance or deviations were identified.

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## DETAILS

### 1. Persons Contacted

J. M. Ballentine, Plant Superintendent  
\*W. E. Andrews, Quality Assurance Supervisor  
\*R. L. Kitts, Health Physics Supervisor  
\*W. H. Kinsey, Jr., Assistant Results Supervisor  
J. T. Dills, Jr., Chemical Engineer  
J. A. McPherson, Mechanical Engineer  
\*F. N. Wright, Occupational Health and Safety Staff Member  
\*M. J. Burzynski, Office of Power, Regulatory Staff Member  
\*M. A. McBurnett, Office of Power, Regulatory Staff Member

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on September 14, 1979 with those persons indicated in Paragraph 1 above. The inspectors discussed findings with members of licensee management and the results of these discussions are noted in the details of this report.

### 3. Licensee Action on Previous Inspection Findings

(Closed) (Unresolved Item 327/79-09-01): Auxiliary Building Vent Sampling System. The single sample nozzle in the Auxiliary Building vent has been replaced by a temporary system using multiple sample points to obtain better cross-sectional sampling in the vent stack. This temporary system should provide adequate sampling until the permanent sampling system, which is being designed in accordance with ANSI N13.1 - 1969, Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities, can be installed. Installation of the permanent sampling system is to take place during the first refueling outage.

### 4. Unresolved Items

Unresolved items were not identified during this inspection.

### 5. Auxillary Building Gas Treatment System

Accompanied by licensee representatives, the inspectors reviewed the as-built redundant filter trains of the Auxillary Building Gas Treatment system (ABGTS). At the time of the inspection, the internal components (pre-filter, HEPA filters and activated carbon adsorber trays) were installed in the filter housings. Each system had installed (1) a 32 kilowatt heating section (2) a pre-filter/HEPA filter common mounting frame which was continuously welded to the housing (3) nine installed HEPA filters, some equipped with faceguards (4) twenty-seven standard adsorber trays and five samplers (5) bulkhead doorway entries to the upstream and

downstream side of the HEPA filters and upstream side of the adsorber banks (6) a continuously welded adsorber bank frame (7) a deluge system for the adsorber section with a drain line containing a loop seal to prevent bypass leakage, and (8) a centrifugal blower rated at 9050 CFM. The inspectors reviewed the conformance of the as-built systems to the commitments made in Section 6.2.3 of the FSAR (including Regulatory Guide 1.52 commitments made in Table 6.2-24) and the capability of the system of being tested in accordance with draft Technical Specifications 3.9.12. At the time of the visual inspection, the systems had not been preoperationally tested. Comparing the as-built system with the commitments made in Table 6.2-24 of the FSAR, the inspectors noted two areas where the commitments do not appear to be met. Position C.2.g of Regulatory Guide 1.52 requires "The atmosphere cleanup system should be instrumented to signal, alarm and record pertinent pressure drops and flow rates at the control room". The inspectors noted that all the pressure drop instrumentation for the Auxiliary Building Gas Treatment System were local and not in the control room. The inspectors informed licensee representatives that this item would remain open (50-327/79-48-01 and 50-328/79-26-01) pending their evaluation. The inspectors also noted that portions of the ABGTS housing downstream of the HEPA filters and upstream of the blower are joined by bolted flanges sealed by a gasket instead of by welded flanges. The inspectors informed licensee representatives that this was contrary to position C.3.f of Regulatory Guide 1.52, which endorses the recommendations of ORNL-NSIC-65, Section 4.5.9, and the item would remain open (50-327/79-48-02 and 50-328/79-26-02) pending the licensee's evaluation. The inspectors had no further questions or observations.

The inspectors reviewed Surveillance Instruction SI-132, entitled "Auxiliary Building Gas Treatment System Filter Train Test", and found that the SI appears to adequately address the filter surveillance requirements of draft Technical Specification 3.9.12 and had no further questions or observations for this system.

#### 6. Emergency Gas Treatment System

Accompanied by licensee representatives, the inspectors reviewed the as-built, redundant filter trains of the Emergency Gas Treatment System (EGTS). At the time of the inspection the internal components (demisters, pre-filters, two activated carbon adsorber trays in series, and upstream and downstream HEPA's) were installed in the filter housings. Each system had installed (1) a heater section (2) a pre-filter/HEPA Filter common mounting frame which was continuously welded to the housing (3) four installed HEPA Filters upstream and downstream of the adsorber section, each equipped with faceguards, (4) two banks of adsorbers each containing twelve trays, (5) bulkhead doorway entries to the adsorbers and HEPA's (6) a centrifugal blower rated at 4216 CFM, (7) cross connections between the two units (outlet from one unit connected to the inlet of the other unit), and (8) a deluge system for the adsorber section with a drain line containing a loop seal to prevent bypass leakage. The inspectors also reviewed the display of instrumentation alarms and recorders for the EGTS located on Panel 27-B in the control room. The inspectors compared the

as-built EGTS with the commitment made in Table 6.2-24 of the FSAR. The inspectors again noted the use of bolted flanges with gaskets for sealing sections of the housings in lieu of welded flanges (see ABGTS above) and informed licensee representatives that this item would remain open (50-327/79-48-02 and 50-328/79-26-02) for this system also.

The inspectors reviewed the capability of the EGTS to meet the requirements of draft Technical Specification 3.6.19. No obvious deficiencies were noted however the in-place leak tests had not been performed at the time of the inspection. The results of in-place leak tests will be reviewed at a later date. The inspector had no further questions or observations in this area.

#### 7. Control Room Emergency Ventilation System

Accompanied by licensee's representatives, the inspectors reviewed the as-built redundant filter trains of the Control Room Emergency Ventilation system. At the time of the inspection, the internal components (HEPA Filters and activated carbon adsorbers trays) were installed in the filter housings. Each system had installed (1) a HEPA Filter mounting frame which was continuously welded to the housing (2) four installed HEPA Filters, equipped with faceguards (3) twelve standard adsorber trays and samplers (4) bulkhead doorway entries to the downstream side of the HEPA Filter and upstream side of the adsorber banks (5) a continuously welded adsorber bank frame (6) a deluge system for the adsorber section with a drain line containing a loop seal to prevent bypass leakage and (7) an axial vane fan rated at approximately 4000 CFM. The inspectors reviewed the conformance of the as-built systems to the commitments made in Section 9.4 of the FSAR (including Regulatory Guide 1.52 commitments made in Table 9.4-1) and the capability of the system of being tested in accordance with draft Technical Specifications 3.4.7. Comparing the as-built system with the commitments made in Table 9.4.1 of the FSAR, the inspectors noted that the system appeared to meet the commitments made. The inspectors did note that the abrupt flow entry to the HEPA Filters may make it difficult to meet the flow distribution requirements of section 8 of ANSI N-510-1975. This can only be determined by actual testing of the system and the tests have not yet been performed. The inspectors had no further questions in this area.

#### 8. Health Physics Retraining Film

An inspector reviewed the health physics retraining program for renewing an individual's unescorted access badge. This program consists of a videotaped program of approximately two hours duration and covers topics such as the proper wearing of respirators, anti-contamination clothing and personnel dosimeters. It also provides the instructions to workers which are required by 10 CFR 19.12. The inspector had no further questions.

9. Progress on Outstanding Items

- a. The Plant Discharge Effluent Monitor 327/78-23-01 and 328/78-17-01)

The inspectors observed the Plant Discharge Effluent Monitor had been installed. This item is closed.

- b. The Shield Building Vent Monitor (327/79-27-02)

Setting of particulate matter in the Shield Building Vent Monitor sample line had been identified as a potential problem because of the very long piping run between the sample point and the monitor. The inspector determined that all gaseous discharges into the Shield Building Vent are filtered through HEPA Filter with an efficiency of at least 99.97% for all measureable particles. Since the most difficult size particle to remove is the 0.3 micrometer particle it was assumed that this size particle would be the main constituent in the sample stream. Based upon a particle size of 0.3 micrometer and the information given in ANSI N-13.2-1969, Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities, the inspectors concluded that no significant setting of the particulates would occur in the sample lines. This item is closed.

- c. Discriminator Setting on Monitor O-RM-90-118 (327/79-27-01)

The inspector discussed this item with a member of the licensee's management staff and it was determined that the discriminator setting on O-RM-90-118 had been corrected and the monitor recalibrated. This item is closed.

- d. Spent Resin Sluice Line (327/79-27-04 and 328/79-14-03)

The inspectors re-examined the layout of the spent resin sluice line and discussed the potential for inadvertent radiation exposure, during resin transfer, with the Health Physics Supervisor. Procedures are being modified to ensure that all personnel are out of the areas adjacent to the resin sluice line prior to commencing any resin transfer, that doors to these areas are locked prior to resin transfer and that a thorough radiation survey is conducted after the resin transfer operation to ensure that the resin sluice line has been cleared of spent resin. Personnel will not be allowed to enter the areas until the radiation surveys are complete and adequate controls reestablished. This item is closed.

- e. Tank Volume Verifications (327/79-09-02)

This item was originally discussed in IE Report No. 50-327/79-9 and 50-328/79-5 paragraph 8.a. It was further reviewed and discussed in IE Report No. 50-327.79-27 and 50-328/79-14 where it was noted that physical measurements had been made for the liquid radwaste tanks but not for the waste gas decay tanks.

Physical measurements for the waste gas decay tanks have been completed and a review by the inspectors of the dimensions for these tanks revealed no problems. This item is closed.

- f. Drain Lines and Fire Protection System Spray Nozzles installed on filter housings (327/79-27-03 and 328/79-14-02)

These two items were identified in IE Report No. 50-327/79-17 and 50-328/79-14 paragraph 7. During the current inspection, it was determined that installation of the drain systems for the filter housings was essentially complete. The sprinkler heads in the deluge system had been adjusted to provide spray onto the charcoal beds. The position of the sprinkler heads does not significantly affect the installation of charcoal trays since the sprinkler header is normally dry (not charged with water until a fire occurs) and the sprinkler heads can be easily removed during filter changeout. This item is closed.

- g. Cask Decontamination Tank Recirculation (327/78-23-02 and 328/78-17-02)

This item was identified in IE Report Nos. 50-327/78-23 and 50-328/78-17. Since those reports, requirements in the area of effluent releases have changed. This item is closed.