

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

AUG 29 1989

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

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

SEQUOYAH NUCLEAR PLANT (SQN) UNITS 1 AND 2 - APPENDIX B, ENVIRONMENTAL
TECHNICAL SPECIFICATION - FISHKILL

Enclosed is TVA's report of the August 2, 1989, fishkill in accordance with
the requirements in Appendix B, Environmental Technical Specification,
Subsections 4.1.1 and 5.4.2.

If you have any questions concerning this submittal, please telephone
M. A. Cooper at (615) 843-6651.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

Ralph H. Shell
for
Manager, Nuclear Licensing
and Regulatory Affairs

Enclosure
cc: See page 2

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U.S. Nuclear Regulatory Commission

AUG 29 1989

cc (Enclosure):

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ENCLOSURE

On Wednesday, August 2, 1989, SQN personnel reported approximately 80 dead fish in the plant diffuser pond. This event was reported to the state of Tennessee Office of Water Pollution Control and to NRC as required by SQN Environmental Technical Specifications. At the time of the discovery, the plant was operating with both units at approximately 100 percent power and in full compliance with the National Pollutant Discharge Elimination System's permit. Preliminary analysis results yielded a pH of 7.4, dissolved oxygen ranging from 5.5 to 5.2 milligrams per liter (mg/l), and temperatures ranging from 103.5 degrees Fahrenheit (F) to 102.7 degrees F.

On August 3, 1989, the investigation continued, and TVA personnel were accompanied by Ann McGregor, of the Tennessee Office of Water Pollution Control, and David Young, of the Tennessee Wildlife Resources Agency. Ms. McGregor measured temperatures, dissolved oxygen, and pH at several points in the pond. The temperatures ranged from 103.1 degrees F to 100.4 degrees F, dissolved oxygen ranged from 6.2 mg/l to 5.8 mg/l, and pH ranged from 7.3 to 6.8. Approximately 520 dead fish were observed. The official count identified 507 shad, 2 bass, and 11 channel catfish.

The condenser cooling water is discharged into the diffuser pond. During normal two-unit open mode operation, the temperature of this water is allowed by TVA's state discharge permit to rise to 112.5 degrees F. On August 2, 1989, the water was measured at 103 degrees F and had been almost that hot for several days. At these temperatures, it is expected that weaker fish will die.

The root cause of the fishkill was hot water. Small fish can pass from Chickamauga Reservoir through the 2-inch-diameter diffuser ports into the diffuser pond and grow during cool seasons or during long periods of plant shutdown. Then, with normal summertime two-unit operation, water temperatures in the pond may rise to 112.5 degrees F. The rise during this event was to 103 degrees F, which was too hot for these fish to survive.