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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Morton B. Margulies, Chairman
Gustave A. Linenberger, Jr.
Dr. Oscar H. Paris

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In the Matter of
GEORGIA POWER COMPANY, et al.
(Vogtle Electric Generating Plant,
Units 1 and 2)

Docket Nos. 50-424 (OL)
50-425 (OL)

ASLBP 84-499-01-OL

January 6, 1986

MEMORANDUM AND ORDER
(Ruling on Motion for Partial Reconsideration
of Memorandum and Order Ruling on Motion for
Summary Disposition of Contention 7)

Introduction and Background

On November 22, 1985 Georgia Power Company, et al., (Applicants) filed "Applicants' Motion for Partial Reconsideration of Memorandum and Order Ruling on Motion for Summary Disposition of Contention 7" (Motion for Reconsideration). The NRC Staff (Staff) filed "NRC Staff's Response to 'Applicants' Motion for Partial Reconsideration of Memorandum and Order Ruling on Motion for Summary Disposition of Contention 7" on December 11, 1985 in which it supported Applicants' Motion for Reconsideration. The Joint Intervenor Campaign for a Prosperous Georgia and Georgians Against Nuclear Energy (Intervenor) did not respond to the Applicants' Motion for Reconsideration.

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Contention 7 of the Intervenor's alleged that Applicants had failed to assure that the groundwater under the Vogtle Electric Generating Plant (VEGP) would not be contaminated by a spill of radioactive water. In our "Memorandum and Order (Ruling on Motion for Summary Disposition of Contention 7 re: Groundwater Contamination)" issued November 12, 1985 we granted in part and denied in part Applicants' Motion for Summary Disposition. Among the genuine issues of material fact that we found remaining to be heard was the question of whether the method used by Applicants and Staff to estimate groundwater migration time under VEGP might produce substantially erroneous results. It is this issue which Applicants and Staff request that we reconsider.

Discussion

In our Memorandum and Order dated November 12, 1985 we concluded that the one-dimensional model of groundwater migration used by Applicants and Staff may be inadequate for estimating ground water velocity over long distances where, as is the case at VEGP, the water table gradient varies greatly over distance. Our conclusion was based on Savannah River Plant (SRP) reports cited by Intervenor's which discussed groundwater velocities calculated by a one-dimensional model similar to that used by Applicants, groundwater velocities computed by a three-dimensional finite-difference model, and groundwater velocities measured by tracer tests. We said, "the simple one-dimensional model used at SRP gave a maximum estimated velocity of 32 ft/yr in the Barnwell formation, whereas observed values in separate studies had maxima of 69 and 72 ft/yr."

Applicants and Staff protest that the 32 ft/yr estimate is an average velocity, not a maximum velocity. They appear to have mis-read our Order. We said that 32 ft/yr was "a maximum estimated velocity" (emphasis added); we did not say that it was an estimated maximum velocity. In other words, it was the greatest estimated value yielded by the one-dimensional model that we could find in the SRP reports cited by the Intervenor. We did not consider it to be an estimate of maximum groundwater velocity in the Barnwell Formation.

As Applicants and Staff point out, the 32 ft/yr estimate was based on "an overall average gradient for the water table". DPST-83-829, Vol. I, at 3-24. This approach is methodologically similar to that used by Applicants and Staff for estimating groundwater travel time at VEGP. See: VEGP-FSAR at 2.4.13-1; FES-OL (NUREG-1087) at 5.52. The fact remains that whereas the average velocities at SRP predicted by the one-dimensional model ranged from 4.3 ft/yr through Barnwell clayey sand to 32 ft/yr through a sand lens, the three-dimensional finite-difference model developed later at SRP predicted velocities through the hydrologically similar Barnwell and McBean formations that ranged from 24 ft/yr to 154 ft/yr, and point dilution measurements yielded velocities ranging from 36 ft/yr to 73 ft/yr. DP-1638, at 23-27. Both the more sophisticated model's predictions and actual observations suggest that the one-dimensional model tends to underestimate groundwater velocity.

Conclusion

Applicants' Motion for Reconsideration and Staff's support of same are without merit. Consequently the Motion must be denied.

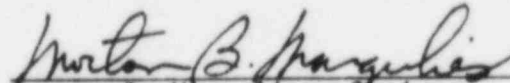
ORDER

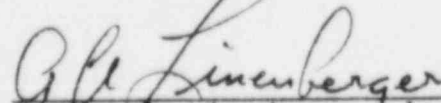
Upon consideration of the entire record in this matter and for the foregoing reasons, it is this 6th day of January, 1986,

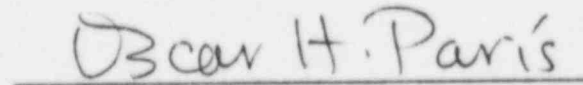
ORDERED

That "Applicants' Motion for Partial Reconsideration of Memorandum and Order Ruling on Motion for Summary Disposition of Contention 7" is denied.

THE ATOMIC SAFETY AND LICENSING BOARD


Morton B. Margulies, Chairman
ADMINISTRATIVE LAW JUDGE


Gustave A. Linenberger, Jr.
ADMINISTRATIVE JUDGE


Dr. Oscar H. Paris
ADMINISTRATIVE JUDGE

Bethesda, Maryland