

Groundwater is collected quarterly from 10 sampling wells onsite to comply with NRC requirements. These samples are analyzed for gross alpha, gross beta, and ammonia. Based on a review of the data from 1984 through 1994, there appears to be no radiological impact to the groundwater from plant operations.

Groundwater samples are also analyzed for pH, ammonia, fluoride, nitrate, and conductivity. Three of the wells near the lagoons have elevated nitrate levels. However, samples from wells adjacent to Sunset Lake and the swamp indicate nitrate levels less than detectable levels.

An EPA team visited the facility in early 1989 to perform a site screening investigation which would evaluate past hazardous waste handling practices and groundwater contamination. This screening identified volatile organic contamination in the groundwater on the plant site. In 1992, Westinghouse conducted an investigation to further document the problem, and with input from South Carolina Department of Health and Environmental Control (SCDHEC) developed a work plan to study the contaminated area. The study indicated that the plume consisted of perchlorethylene, trichlorethylene, and their degradation products. A remedial design plan was developed and submitted to the State of South Carolina for review and approval. Phase I of the plan was implemented during the first quarter of 1995.

Fish samples are collected annually from the Congaree River downstream of the plant discharge. The samples are analyzed for gross alpha and gross beta activity and isotopic uranium. A review of the data from 1984 through 1995 indicates that no uptake of radioactive material by the fish is occurring.

Sediment is collected annually from the Congaree River near the plant discharge to the river. Samples are analyzed for gross alpha, gross beta, and fluoride. The data from 1984 through 1994 have been reviewed and there is no indication of radioactive material concentrating and accumulating at the sample location.

Radiological Impacts From the Proposed Action

The radiological impact from site operations was assessed by calculating the dose to the nearest resident and to the local population. Based on the information supplied by the licensee, the nearest resident resides in the northwest sector, approximately 500 meters from the facility. The dose of the nearest resident was calculated using EPA's COMPLY code, Screening Level

4, which is the most conservative of the four levels, and guidance from NRC Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I." Screening Level 4 uses site specific meteorological information and assumes the resident produces his own milk, meat and vegetables at home.

The Total Effective Dose Equivalent (TEDE) to the nearest resident from licensed operations is 0.03 millirem/year. The natural background radiation in the vicinity of Columbia, South Carolina is about 117 millirem/year. NRC regulations limit the dose to a member of the public from licensed operations to 100 millirem/year. EPA limits the dose received by a member of the public from licensed operations to 25 millirem/year.

Based upon 1990 census information, approximately 823,000 people live within a 50-mile radius of the facility. The dose to the population within the 50-mile radius of the facility would be 96,600 person-rem from the natural background of the area. The dose to the population within the 50-mile radius from licensed operations at the facility would be 0.29 person-rem.

Alternatives to the Proposed Action

Alternatives include the proposed action of renewing the license application or denying the renewal request. The alternative of license renewal would result in the continued operation of the facility for a specific period of time. The environmental impact of the proposed action will be discussed in this assessment.

The alternative of denying the renewal request would result in the facility having to cease operations and begin decontamination and decommissioning activities. The environmental impact of the alternative of denying the license renewal would be the elimination of effluents discharged to the air and water at the CFFF site. However, denial of the license renewal would necessitate expansion of similar activities at an existing facility or construction and operation of a new facility. Because the environmental impacts would be transferred from one location to another, there would be no net benefit to the alternative of denying the license renewal. However, denying the renewal request would be considered only if public health and safety and environmental issues could not be resolved to the satisfaction of the NRC.

Agencies and Persons Consulted

South Carolina Department of Health and Environmental Control, Industrial & Agricultural Wastewater Division, Bureau of Water Pollution Control. There are no objections to the license renewal of the facility.

South Carolina Department of Health and Environmental Control, Office of Environmental Quality Control, Bureau of Air Quality Control. There are no objections to the license renewal of the facility.

Documents used to prepare the Environmental Assessment:

1. Westinghouse Electric Corporation, Application for Renewal of Special Nuclear Material License No. SNM-1107, April 30, 1990.

2. Westinghouse Electric Corporation, Application for Renewal of Special Nuclear Material License No. SNM-1107, April 30, 1995.

3. E.K. Reitler, Westinghouse Electric Corporation, letter to Elaine Keegan, U.S. Nuclear Regulatory Commission, February 20, 1995.

4. Roger Fischer, Westinghouse Electric Corporation, letter to Elaine Keegan, U.S. Nuclear Regulatory Commission, May 5, 1995.

5. U.S. Nuclear Regulatory Commission, "Environmental Impact Appraisal of the Westinghouse Nuclear Fuel Columbia Site (NFCS) Commercial Nuclear Fuel Fabrication Plant," April 1977.

6. U.S. Nuclear Regulatory Commission, "Environmental Assessment for Renewal of Special Nuclear Material License No. SNM-1107," NUREG-1118, May 1985.

7. U.S. Fish and Wildlife Services, Endangered and Threatened Species of the Southeast United States (The Red Book), 1992.

Conclusion

The staff concludes that the impact to the environment and to human health and safety from manufacturing nuclear fuel at this facility has been minimal. The results from the environmental monitoring program indicate no significant impact has occurred to the environment as a result of site operations. Liquid and airborne effluents released to the environment meet all Federal release criteria. The total effective whole body dose received by the maximally exposed individual meets both NRC and EPA regulations.

However, the staff has determined, to enhance effluent and environmental monitoring programs, the following recommendations should be incorporated as license conditions pending renewal of the license: