UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUN 3 1980

Docket No. 70-2909

Westinghouse Electric Corporation
ATTN: Mr. F. Cellier
Project Manager
Uranium Fabrication Plant 2
Nuclear Fuel Division
Box 355
Pittsburgh, Pennsylvania 15230

Gentlemen:

Enclosed are the comments and questions related to the Environmental Report of the proposed Westinghouse Nuclear Fuel Fabrication Plant near Prattville, Alabama. These items were discussed with your staff during a meeting at NRC's Silver Spring, Maryland, office on May 21, 1980. In order to maintain our review schedule, your responses are requested by July 10, 1980.

Should you have any questions concerning these items, or if you cannot meet the time schedule, please call me at (301/427-4510).

Sincerely,

Edward Y. Shum

E. Y. Shum, Ph.D.
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
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Enclosure: Environmental Review
Questions

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Enclosure

QUESTIONS RELATED TO PRATTVILLE ER

- NUCLEAR FUEL FABRICATION PLANT -

1. (ER: Section 2-2; p. 2-4; Demography)

   Please provide a map indicating the location of the residence onsite (if any) and all residences within a 1-mile radius of the plant. Also, provide the distances (in meters) of the nearest residence at each of the 16-azimuthal sectors from the plant.

2. (ER: Section 2-2.2; p. 2-16; Land Use)

   (a) Please describe land use (e.g., industrial, residential, agricultural) immediately adjacent to the site boundary. Include direction from the site, and for agricultural land, indicate the type of crop such as cotton, alfalfa, wheat, pasture grasses, etc.

   (b) Are the forested areas onsite harvested? If so, discuss the productivity of such areas.

   (c) Are any prime and unique farmlands, as defined by the U.S. Soil Conservation Service (SCS), present on the site? Provide a letter from the SCS verifying the presence or absence of such lands, and if present provide a map showing the location of these lands.

   (d) Does the Prattville Agricultural Experiment Station have experimental plots located in the vicinity of the site? If so, discuss their location with respect to the plant site and discuss the types of crops grown.

   (e) Please give the location and type of the nearest forage crop with respect to the proposed plant.

3. (ER: Section 2-2.3; p. 2-18; Water Use)

   (a) The Prattville Water System consists of nine wells. Please identify the aquifer(s) tapped by each well. Please supply any additional hydrologic data for each well. How is the aquifer(s) recharged?

   (b) Please provide a map indicating the location of all wells located within a five-mile radius of the proposed site. Indicate the aquifer tapped by these wells. Are there any potentiometric surface maps published for the aquifers in this area? If yes, please provide.

4. (ER: Section 2-3.1; p. 2-20; Historical and Cultural Landmarks)

   Please provide a clearance letter from the Alabama State Historic Preservation Office regarding historic and archeological sites.

5. (ER: Section 2-4.3; p. 2-27; Seismology)

   Please include historical or instrumentally-recorded data indicating the number and magnitude and/or intensity of earthquakes that have occurred within a 160 km (100 mile) radius of the proposed site.

6. (ER: Section 2-4, p. 2-22-27; Geology)

   Are there any known mineral resources that can be developed economically on or surrounding the proposed plant site?

7. (ER: Section 2-5.2; p. 2-37; Groundwater)

   (a) Does groundwater in the Gordo and Eutaw formations occur under confined or unconfined conditions? Is there hydraulic communication between these two formations? Does groundwater occur in the Coker formation? Under what conditions?

(b) Do wells No. R-54 and R-60 in Table 2-14 correspond to W-1 and W-3 given in Figure 2-7, respectively? Please match all wells shown in Figures 2-7 and 6-4 with the well data given in Table 2-14 if possible. If data is absent, please explain why.

8. (ER: Section 2-6.3; p. 2-62 and 2-65; Section 6-3.1; p. 6-33; Meteorology)

(a) Meteorological data are available from Dannelly Field from 1944 to date. Provide justification for using data from the time period 1956 through 1960 for calculation of dispersion factors.

(b) Why are the meteorological data from Dannelly Field (9 miles SSE of the site) expected to be more representative of the site than data from the Maxwell Air Force Base (6 miles ESE of the site)?

(c) Provide atmospheric dispersion factors for accidental and annual average releases using the appropriate stack release heights or ground-level release including building-wade effect; state all assumptions. Provide the plant's building dimensions.

9. (ER: Section 2-7.1; p. 2-65; Terrestrial Ecology)

(a) This section repeatedly refers to the terrestrial ecological field survey conducted in the fall of 1978 (December 5-9). However, paragraph 6-1 indicates that terrestrial ecological surveys were conducted during four seasons. Please give the actual sampling dates corresponding with the four seasons. Does Section 2-7.1 contain all data from the four seasons? If not, please update this section.

(b) Please estimate the grazing capacity (AUM) for pasture land on the ANFFP site and within Autauga County.

10. (ER: Section 2-7.1.4; p. 2-71; Threatened and Endangered Species)
Please provide a list of threatened and endangered species (specified by state and federal) whose ranges include Autauga County. Also list preferred habitats of each species along with appropriate references.

11. (ER: Section 2-7.2.1, 2-5.3, 6.11 and Appendix B; Aquatic Ecology)

(a) Provide all data from the quarterly sampling program initiated in the fall of 1978. Include: (a) surface water quality as shown in Table 2-19, p. 2-49 and (b) aquatic survey data as delineated in Table 6-2.

(b) Were electroshock fish aquisition methods used as mentioned in Table 6-2? If not, justify why they were not used as a check on other techniques.

(c) Why was aquatic biota not sampled at far upstream locations? Section 2-7.2, p. 2-72.

(d) Are the values of 1100 to 6100 pounds per day of uranium transported by the river accurate? What is the source of this uranium (summary, p. 5-5)?

(e) Pennate diatoms are more likely to be found deeper in the water column than centric diatoms. To provide a more accurate picture of existing aquatic microbiota provide plankton data from both surface and deeper in the photic zone to determine if pennates are more abundant than indicated (Table B-14, p. B-23).

12. (ER: Section 2-8.2.1; p. 2-95; Air Quality)
In which Air Quality Control Region (AQCR) is the site located? What is the status of each major air pollutant within this AOCR?

13. (ER: Section 3-2.1.1; p. 3-6 and Section 3-2.3; p. 3-10; Plant Operation)

    (a) It is proposed that hydrogen gas from the kiln and sintering systems be flared. Discuss applicable state laws with regard to flaring the hydrogen gas.

    (b) Will any solid wastes be disposed of on site? If yes, please provide pertinent details.

14. (ER: Section 3-3.1.2; p. 3-18; Airborne Discharge)

    (a) Please discuss the assumptions for the estimated release rates of uranium, fluoride, and total particulates. Provide information on stack or vent release for each atmospheric effluent. If the release is from stack, provide information on the height of stack, stack diameter, temperature and exit velocity.

    (b) Please identify the uranium compounds released from the air effluents. Provide the best estimates with rationale the percentage each uranium compound in the total release.

15. (ER: Section 4-1.2; p. 4-1; Site Preparation)

    Will any portion of the 814-acre site be used for agricultural (grazing or crop land) or number production during the life of the plant? If so, explain.

16. (ER: Section 4-1.4; p. 4-3; Mitigation or Reversal Measures)

    In what areas will rip-rap be used?

17. (ER: Section 4-2.3; p. 4-28; Chemical Impact)

    Please calculate atmospheric concentrations of non-radiological air pollutants using atmospheric dispersion factors requested in Question 8-c and modify the discussion appropriately.

18. (ER: Section 4-2.5; p. 4-38; Effect on Water Use)

(a) Please indicate the average daily municipal water demand on the Prattville Water System by the following sectors or similar sectors:

Residential

Industrial

Nonindustrial

(b) If possible, please supply used portions of the following publications:

1. Geological Survey of Alabama, Information Series 21, Ground-Water Resources of Autauga County, Alabama. By John C. Scott, Walter B. Jones, State Geologist. Prepared by the U.S. Geological Survey in Cooperation with the Geological Survey of Alabama, University, Alabama 1960. Pp. 7-11: Law Engineering Testing Co. "Preliminary Site Reconnaissance for Geologic and Subsurface Conditions - Dupont Site - 12 miles N.W. of Montgomery, Alabama," August 29, 1978.
2. "Report of Subsurface Investigation Union Bag-Camp Paper Corporation, Prattville, Alabama." Law Engineering Testing Co., Atlanta, Georgia. Letter to Mr. T. H. Whittfield, Project Engineer from B. J. St. John, R. B. Bledsoe and George Sowers, March 26, 1965.
3. Scott, J. C., "Groundwater Resources of Autauga County, Alabama, Reconnaissance Report," U.S. Geological Service, 1960.

19. (ER: Section 4-3; p. 4-38; Resources Committed)

Please provide a general decommissioning plan to be effected at the end of plant life.

20. (ER: Section 6-1.2; p. 6-8; Groundwater)

Paragraph two states that "other nearby offsite water sources were substituted for the abandoned, shallow on-site well." Please list and provide a map indicating the location of these additional groundwater sources. Please provide pertinent hydrologic information and corresponding water quality data.

21. (ER: Section 6-1.4.1; p. 6-13; Terrestrial Ecology Survey)

Please provide a more detailed description of the methods used to sample small mammals; i.e., how many live-trapping grids were located in each habitat? How many traps per grid? How many nights were the traps set? Provide similar information for the snap-trapping lines.

22. (ER: Section 6-2.2.2; p. 6-28; Well Water Sampling and Analysis)

On the same map, please show the location of all wells used in preoperational monitoring and those intended to be used for operational radiological and nonradiological monitoring. On what basis were these wells selected for radiological and nonradiological analysis.

23. (ER: Section 6-3; p. 6-33; Related Environmental Measurement)

Please provide the ambient concentration of critical air pollutants measured at the nearest government air quality monitoring station.

24. (ER: Section 7-2; Plant Site Alternatives)

This section discusses the criteria used to select the candidate site and briefly explains the desirable characteristics of the Prattville location but does not provide comparable data for the alternate locations.

Please provide information as specifically as possible for other alternate locations so that the staff can assess the applicant's analysis and independently evaluate the alternatives.

25. (ER: Section 8; Socioeconomic)

(a) The number of employees that will be needed for construction and for "shakedown" -- over time -- is not clear. On pages S2, S-7, and 8-3, it is stated that an average of about 150 workers will be needed during the 24-month construction period (1982-84) and that approximately 115 of these will be hired locally. However, on pages 8-3 and 8-7 it is stated that construction employment will peak at either 400 (p. 8-3) or 500 (p. 8-7). On pages S-3 and 8-3 it is stated that about 120 workers will be needed following construction during the nine-month equipment shakedown period. What is the maximum number of employees that are expected to be needed during these periods? How long will they work and when will they be needed? How many of these will be hired locally? A bar chart indicating employment requirements through time would be helpful.

(b) Pp. S-7, 8-3, and 8-4. It is estimated that secondary or "induced" employment in the local economy will be about 250 during construction (1982-84), about 60 in 1985, growing to 780 in 1988 and continuing thereafter at that level. Is the 250 estimate a peak or average estimate? What is the basis for these estimates; that is, what was the method(s) used to calculate these numbers? "Chamber of Commerce" information is vaguely referred to in Section 8 and was apparently

used as a basis for estimating the number of secondary employees in various employment sectors (construction, trade, etc.). What "Chamber of Commerce" publication(s) is being referred to?

(c) Section 8.1-2, pp. 8-1, -2, and -3. The income benefits that are expected to accrue during various project phases are summarized:

(i) Section 8-1.2.1. It is stated that $24 million will accrue to the local economy from design, construction, and startup activities - 40% of the "current value of the project" ($60 million). What is the basis for this "40%" estimate?

(ii) Section 8-1.2.2. It is stated that "over the 40-year plant lifetime, the total present value of [induced] income [from operation] is estimated to be $950 million, of which 67 percent would benefit the local economy." How were these estimates derived? What discount rate was used? Why "67% to the local economy?"

(iii) Section 8.1-2. It is stated that the "second-level employment will amount to 28 ?00 man-years...and will generate income benefits with a current value of $280 million." How were these estimates derived?

(d) Section 8-1.4, p. 8-5. It is stated that about $130,000 will be paid annually for property taxes. This estimate was based on "current assessment practices of the Alabama State Tax Commission, present local tax rates, and 20-year average fair market value,... assuming no exemption from taxes." Has Westinghouse applied for or

been granted any exemptions from any municipal, county, or state taxes? What is the "20-year average fair market value?"

26. (ER: Section 9-2; p. 9-1; Environmental Approvals and Consultations)

(a) What is the status of permits required by the Alabama Air Pollution Control Commission for operation of potentially air-contaminating new sources and those required by the Alabama Health Department's Solid Waste Division for treatment, storage, and disposal of waste?

(b) What is the current status for the application of the NPDES permit? Please provide correspondence between Westinghouse and the State's officials in regard to the NPDES permit application.

27. (ER: Appendix B; p. B-2)

The staff knows of no biological investigation procedures that have been reviewed and approved by Oak Ridge National Laboratory. Please comment.

28. Engineering Questions

(a) For the Direct Conversion Process to be used at the Prattville Plant provide operating data sufficient to establish:

(i) HF losses to scrubber

(ii) If the HF is unacceptable for sale, what is the alternative disposal method?

(b) The cation-anion balance appears to be in error for neutral waste. Please clarify. (Section 3-3.2.4, p. 3-2.3)

(c) Please provide the rationale for the source terms on radiological and chemical effluents for potential accidental release involving the conversion kiln operations.

(d) Please estimate the maximum capacity of wet scrap recovery.

(e) Please estimate the annual usage at maximum operation capacity of all materials on Table 5-4.

(f) Provide range of plant operating hours per year at full production.

(g) Describe the UF_6 vaporization operation. Include:

(i) Method of cylinder transport and process connections.

(ii) Normal and maximum cylinder operating temperatures.

(iii) Number of cylinders hot at one time.

(iv) The containment housing, emergency scrubber capability.

In effect, justify the statements on page 5-15 in sufficient detail for independent evaluation by the staff.

(h) Please provide information and rationale to justify the source terms of accidental releases such as from a criticality accident involving the UNH production operations.