



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

OCT 8 1980

Docket No. 70-1257

Exxon Nuclear Company
ATTN: Mr. H. Paul Estey, Manager
Licensing & Compliance,
Operating Facilities
2101 Horn Rapids Road
Richland, Washington 99352

Gentlemen:

Enclosed are comments and questions related to Exxon's Environmental Information submitted to NRC in connection with your license renewal application. These items were discussed with your staff during a meeting at your office on September 23, 1980. In order to maintain our review schedule, your responses to these questions are requested by November 15, 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,

A handwritten signature in cursive script that reads "Edward Y. Shum".

E. Y. Shum
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety

Enclosure: As stated

cc: Dr. F. Wimpey
1710 Goodridge Drive
P.O. Box 1303
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Enclosure

Questions Related to Environmental Information
Submitted in Connection with Exxon's License
Renewal Application (SNM-1227, Docket No. 70-1257)

1. General

- 1.1 What is the current census and population distribution within a 50-mile radius of the site?
- 1.2 What are the projected population growths in the next 5- and 10-year periods?
- 1.3 What is the current land use pattern of the area within a 50-mile radius of the site?
- 1.4 Is the land use pattern expected to change in the next 5- and 10-year periods?
- 1.5 What is the location of the nearest residence:
 - a. to the site boundary?
 - b. to an exhaust stack?
 - c. downwind of an exhaust stack based on the prevailing winds?
- 1.6 What is the most recent compilation of effluent history?
- 1.7 Has the area's wildlife status changed in the last 5 years or is it expected to change in the next 5 years?
- 1.8 Are there any endangered species which live in or migrate through the area?
- 1.9 Have local meteorological conditions and radiation and radioactivity levels in background been affected by the volcanic activity of Mt. St. Helens?
- 1.10 What is the site safety record regarding radiological accidents and releases (on and off site)?
- 1.11 Have there been any changes in water quality standards or requirements?
- 1.12 Is there any change in the site's energy requirements?
- 1.13 How is the new 160-acre tract of land to be used?
- 1.14 Does this land addition introduce any new environmental issues such as wildlife, terrain, hydrology, or meteorology?

- 1.15 What is the industrial population distribution out to a 5-mile radius in one mile increments?
 - 1.16 Are meteorological data gathered/maintained at the ENC site? If so, please provide data for the past 2 years.
 - 1.17 In the event it became necessary for ENC employees to evacuate a building/area, are there any means for enabling such employees to determine an upwind position from the accidental release point?
 - 1.18 Is there a contingency plan for the protection of the UF₆ storage area (if so, please provide copy) in the event of severe range fire, such as has occurred in the area in the past?
2. Proposed Single Stage HEPA Filtration
- 2.1 What is the history of particulate accumulation on the two-stage HEPA filters for which a single stage is proposed?
 - 2.2 What problems has Exxon encountered with the operation and maintenance of HEPA filters in the past?
 - 2.3 Can single stage filtration be shown to be sufficient considering the possible need of back-up filtration in the event of equipment failure or problems with routine maintenance and operation?
 - 2.4 Will the physical locations of the HEPA filters (regardless of the number of stages) be altered or increased in number?
 - 2.5 Would this change be accompanied by a change in the method of monitoring the stack exhaust?
 - 2.6 Are there reasons, other than economical, for the proposed change?
3. New UO₂ Facility
- 3.1 How has the impact of this facility on waste handling deviated from that predicted at the time of its licensing?
 - 3.2 How has this facility altered the storage requirements of hazardous materials?
 - 3.3 Have the locations of storage areas of hazardous materials been changed or increased since the licensing of this facility?
 - 3.4 Have the shipment requirements of resource or waste materials deviated from those predicted for the addition of this facility?

- 3.5 Have any of the factors which affect the probability and/or magnitude of the maximum possible release deviated in practice from those predicted?
 - 3.6 Has the personnel requirement of this facility changed since its initial operation?
4. Future Waste Uranium Recovery (WUR) Facility
 - 4.1 Where will it be constructed?
 - 4.2 What will be its contribution to liquid, gaseous and solid wastes?
 - 4.3 How will this affect the number of site personnel?
5. Fluoride Emissions
 - 5.1 What are all of the possible chemical configurations of fluoride from the UF_6 feed material throughout the fuel fabrication process; what are the destinies of these chemicals (lagoons, stack effluent, scrubbers, fuel, etc.) and the masses of each product in these final conditions?
 - 5.2 Provide a description of the comparative monitoring experiment which will compare ENC's fluoride monitoring technique in the stacks to the modified EPA method for the high flow stacks (K10, K31, K32) and your best prediction of results.
6. Lagoon
 - 6.1 What has been the annual discharge of uranium to the lagoons? Please compare your best estimate of the uranium discharge to the estimated discharge in the uranium oxide EIS and the various Environmental Reports (Addenda 1-5) submitted for license modification or renewal.
 - 6.2 What is the monthly average and verge of concentration (in ppm) of the chemicals NH_3 , NO_3 (or total N), F, Na, SO_4 (or S, Al, Zr and U in the lagoon liquid for the last 12 to 18 months?
 - 6.3 Would the quantities of chemicals, listed in question 6.2 discharged be in the same proportion relative to uranium as the estimated discharge given in your environmental reports (for example Table 3.5 of JN-14 Addendum 3)?

- 6.4 To your knowledge, have soil column studies been performed on soil characteristics of those underlying the ENC site? If so, please describe the rate of travel of the various chemicals contained in the lagoon if a leak were to occur.
- 6.5 What is the location (distance and direction from the lagoons) of the nearest well that is used for drinking water?
- 6.6 Describe the causes of leaks from the lagoons to date. Briefly summarize the actions taken to prevent reoccurrences.
- 6.7 Please furnish dimensions of the floors of each lagoon.
- 6.8 Assuming the isopiestic lines on the accompanying sketch are reasonably accurate and the flow of the unconfined aquifer is normal to these lines, a more northwesterly flow component seems indicated in the lagoon area than has been mentioned previously. Readings taken at test wells 1, 9, and to a lesser degree, test well 11 seem to lend verification to the presence of this northwesterly flow. The question then is, what contaminants in what quantities could be migrating northwestward between test wells 1 and 11?
- 6.9 Test wells 2 and 3 have shown the presence of fluoride, nitrate and sulfur. Test wells 10, 4, 5, and 6 have indicated the presence of nitrate and well 7 the presence of sulfur. The proximity of these wells to the toe of the dikes (except number 10) and the distance separating them poses the possibility of narrow contaminant plumes (narrow due to the short distances from possible release points) migrating, undetected, between the test wells along the eastern side of the lagoons. Can you describe the likelihood or probability of the well system detecting leaks assuming the upgrade between lines system does not work?
- 6.10 Describe the between lines detection system of the current lagoons. What remedial action will be taken if leakage is detected in the lagoon(s)? Describe how temporary storage will be provided in case liquid has to be pumped from lagoon(s) for lagoon repair.
- 6.11 What remedial action will be taken to clean up contaminants in groundwater due to lagoon leakage in the past?
- 6.12 Describe the proposed additional monitor wells to be installed and the adequacy of the overall monitoring well system to define the contaminant plume in groundwater systems.

7. Effluent and Environmental Monitoring

- 7.1 Please summarize in a table the operational effluent monitoring program including stack, liquid discharge points, sample collection and analysis frequency, sample type (particulate, gas or liquid), type of analysis (alpha, beta or isotopic analysis) and effluent action level.
- 7.2 Please summarize in a table the environmental monitoring program including a map showing all the media sampling point locations, sample collection and analysis frequency, sample type, types of analysis and minimum analytical detection levels.
- 7.3 Please summarize the environmental monitoring results on all sampling media for the past five years. Please interpret the data as much as possible, i.e., the environmental concentration in fluoride in relation to plant release, monitoring well data in relation to lagoon leakage, etc.