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**EXXON NUCLEAR COMPANY, Inc.**

2101 Horn Rapids Road
P. O. Box 130, Richland, Washington 99352
Phone: (509) 375-8100 Telex: 15-2878

December 16, 1981

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U.S. NUCLEAR REG. COMMISSION
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Mr. R. G. Page, Chief
Uranium Fuel Licensing Branch
Division of Fuel Cycle and Material Safety
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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License SNM-1227
Docket 70-1257

Ref: Letter, R.G. Page to C.W. Malody, November 19, 1981

Dear Mr. Page:

The reference letter requested some clarification of the Exxon Nuclear Company, Inc. Radiological Contingency Plan which was submitted for your review on August 20, 1981. Responses to those questions are contained in the attachment to this letter. In addition, appropriate pages of the subject plan have been revised and are enclosed (6 copies) for replacement of similar pages of the plan originally submitted. The modified sections of the replacement pages have been identified by lines in the margins for ease of review.

The reference letter also requested copies of the Emergency Plan Quick Reference and Implementing Procedures documents. These two documents are not considered as part of our response to the Order of February 11, 1981 but are internal documents generated to assist us in implementation of the radiological contingency plan. Since they are working documents, they are subject to frequent revision. Six (6) copies of the two documents requested are being forwarded under separate cover for information only to assist you in review of the previously submitted plan. The implementing procedures are currently under revision; however, the draft copies submitted are considered to be adequate for your purposes at their current state of revision. We request that these documents not be placed in the Public Document Room and that they be returned following their use.

Very truly yours,

C W Malody

C. W. Malody, Manager
Licensing & Compliance,
Operating Facilities

CWM:clc
Enclosure

FEE EXEMPT
response to questions re "Order"



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ATTACHMENT I

RESPONSE TO NRC QUESTIONS REGARDING
EXXON NUCLEAR COMPANY'S EMERGENCY AND RADIOLOGICAL CONTINGENCY PLAN

Item #1: *The mixed oxide facility has been summarily dispensed with in your plan. It is requested that you describe the disposition of the 500 grams plutonium contamination on internal surfaces of fuel fabrication process equipment in some detail to assist in the assessment of its dispersibility under accident conditions. The release of $PuO_2$ under accident conditions should be appropriately considered throughout your Plan. If the consequences of such accidental releases are small, including those resulting from fire and severe natural phenomena, provide the supporting analyses.*

Response: The fact that Exxon Nuclear has, as a possession limit, 500 grams plutonium is somewhat misleading. Conservative estimates indicate no more than 93 grams Pu to be present in the Specialty Fuels (MO) facility, all as surface contamination inside equipment in gloveboxes (95%) and in ventilation ductwork (5%). All plutonium operations have been halted. Following cessation of plutonium operations, the involved gloveboxes and equipment received extensive decontamination. The potential for dispersion of the remaining material is deemed to be very low. Additional discussion is given in Section 2.1.2.

SECTION-BY-SECTION

Item #2:

2.2.2.2 *The design criterion of 20 $lb/ft^2$ for wind loading for containment buildings equates to a 90 mph wind. How often are winds in excess of 90 mph anticipated? Add high winds, i.e., those in excess of 90 mph, to the accident classification of Chapter 4 in the probability of such winds exceeds $10^{-4}$ per year.*

Response: The probability of having winds in excess of 90 mph is less than $6 \times 10^{-3}$ per year, and less than $10^{-4}$ per year for winds in excess of 125 mph.[1] High winds were added to the accident classification table in Chapter 4, see Table 4.2.1.

Item #3:

3.1.2.3 *Indicate the locations of continuous air monitors.*

Response: Location of continuous room air monitors are given in Figures 2.2.3 and 2.2.4 of the plan.

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Item #4:

3.1.2.4 *Clarify what is meant by "Three detectors in each location are set to trip at 80 mrem/hr. Two sets of detectors operate in two-out-of-N coincidence, where N equals three to six per comparator panel?" Where are the detectors? How does the system work? If three detectors at each location trip at 80 mrem/hr, at what level do the others trip? Are there others?*

Response: Section 3.1.2.4 of the plan has been expended to better clarify how the criticality alarm system functions. In addition, Section 1.6 of Reference 1 of the plan provides additional information on the criticality alarm system in general.

Item #5:

3.2.1.1 *How large is the "large capacity", "standby" scrubber? How is it activated?*

Response: See Section 3.2.1.1, as revised.

Item #6:

3.2.1.5 *How are the "automatic deluge systems" in the filter plenums activated?*

Response: The automatic deluge system is activated by a heat sensing device located in the plenums.

Item #7:

3.2.1.7 *Supply a procedure for manipulation of the valves on the eight inch water loop to maintain flow when one supply line has failed.*

Response: When one supply line fails, an isolation valve on that line is closed. This maintains the water pressure in the eight inch water loop around the plant.

Item #8:

3.2.1.8 *Describe the ammonia tanks. What abnormal conditions cause the supply line valves to shut off? How?*

Response: See Section 3.2.1.8 as revised.

Item #9:

5.1 *Provide an organization chart for normal operations.*

Response: An organization chart for normal operations has been added as Figure 5.1.1.

Item #10:

Appendix 4

*What is the basis for $UO_2F_2$ concentration equal to 10% of HF concentration when stoichiometry of the hydrolysis reaction indicates 25%?*

Response: See Appendix 4 as revised.

References:

1) "Effects of Natural Phenomena on the Exxon Nuclear Company Mixed Oxide Fabrication Facility at Richland, Washington", NUREG-0722, Docket No. 70-1257, September 1980.

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