

RDR

70-1257

EXXON NUCLEAR COMPANY, Inc.

RESEARCH AND TECHNOLOGY CENTER

2955 George Washington Way, Richland, Washington 99352

PHONE: (509) 943-7100

May 6, 1980

| | |
|---------------------|--------------------------|
| Applicant | <i>Exxon Nuclear Co.</i> |
| Check No. | <i>77777</i> |
| Amount/Fee Category | <i>11-12</i> |
| Type of Fee | <i>Adm.</i> |
| Date Check Rec'd. | <i>6/1/80</i> |
| Received By | <i>[Signature]</i> |

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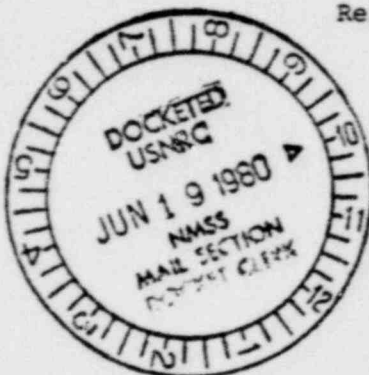
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Mr. William J. Dircks, Director
 Office of Material Safety and Safeguards
 U.S. Nuclear Regulatory Commission
 Washington, D.C. 20555

U.S. NUCLEAR REG.
 SAFETY DIVISION
 SECTION

1 copy to:
Ray Brady,
Director of Security
Administration

- Ref.: 1) License No. SNM-1227
- 2) Docket No. 70-1257
- 3) Letter, R. Nilson to R. A. Brightsen, dated May 4, 1976.
- 4) Letter, E. R. Astley to R. K. Heusser, dated March 19, 1980.
- 5) Letter, R. K. Heusser to E. R. Astley, dated April 10, 1980.



Dear Mr. Dircks:

In May 1976 the Exxon Nuclear Company ceased operations involving the fabrication of mixed PuO₂-UO₂ fuel elements as a result of the governmental policy which prohibits commercial use of LWR recycle plutonium fuels. Special protective measures were taken (see Reference 3) to adequately assure the security of the remaining material while minimizing the associated security system cost impact. Notwithstanding those measures, actual accrued security related costs for storage of the material have been significant.

Since no change of governmental policy is anticipated in the foreseeable future, the continued storage of plutonium fuel and the associated cost burden are not warranted. It is our intention, therefore, to arrange for appropriate disposition of our plutonium inventory and subsequent decommissioning of our mixed oxide fuel fabrication facility.

In February and March 1980 Exxon Nuclear Company, in cooperation with the Rochester Gas and Electric Company (RG&E), downloaded twelve (12) mixed oxide fuel rods owned by RG&E and repackaged and transported the material to DOE facilities in Richland, Washington for storage and potential future use. On March 7, 1980 Consumers Power Company submitted a request to DOE for a similar transfer of their plutonium, currently stored by the Exxon Nuclear Company, to DOE facilities. That material represents approximately 70% of the Exxon Nuclear Company plutonium inventory and owners of the remaining 30% have indicated that they are receptive to the idea of transferring ownership and control of their material to DOE. Accordingly, on March 19, 1980 (see Reference 4,

THIS DOCUMENT CONTAINS
 POOR QUALITY PAGES

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May 6, 1980

attached) Exxon Nuclear requested that the DOE consider acceptance of our total plutonium inventory along the lines of the Consumers Power proposal. Furthermore, a willingness was expressed to make available for DOE use, at no cost, all or part of the Exxon Nuclear owned fuel fabrication equipment after disposition of the existing plutonium inventory.

On April 10, 1980 (see Reference 5, attached) Mr. Heusser indicated that a decision with respect to the proposed transfer of plutonium in possession of Exxon Nuclear would be made in about ninety (90) days. In anticipation of a favorable response, an unsolicited proposal is currently being prepared by Exxon Nuclear for submittal to DOE to provide for decommissioning of our mixed $\text{PuO}_2\text{-UO}_2$ fuel fabrication facility as a feasibility demonstration.

On November 28, 1979 final physical protection system upgrade rules were published by the NRC with a specified effective date of March 25, 1980. These rules require submittal of a revised fixed site physical protection plan 150 days after the effective date and full compliance by March 25, 1981. On March 5, 1980, final rules were published with respect to access and protection of national security information and restricted data specifying an effective date of May 19, 1980. On that date all required personnel clearances are to be requested and a plan for protecting classified information is to be submitted. Full compliance is expected by about September 1, 1980. Since we anticipate transfer of our plutonium inventory within a short time period following the above noted implementation dates, the preparation and actual implementation of security plans to satisfy the physical protection system upgrade rules and the rules regarding access and protection of national security information and restricted data is considered to be unnecessary.

As a consequence of the above, and in accordance with the provisions of 10 CFR 25.11, 95.11, and 73.5, temporary exemptions are requested from the requirements of 10 CFR 25, 95 and 73.20. The temporary exemptions are initially being requested for a period of about six (6) months from the effective date of 10 CFR 25 and 95 (i.e., until December 1, 1980). Continuation of the exemptions after December 1, 1980 will be contingent upon DOE's willingness to accept plutonium stored at ENC's facilities sufficient to reduce the inventory to less than 2 kg. After Exxon Nuclear's proposal, or suitable alternative, is accepted by DOE, but not later than December 1980, Exxon Nuclear will provide NRC with a schedule for transferring the plutonium to DOE. If the schedule is acceptable to NRC, the exemptions would be extended until the material transfer is accomplished. If the proposed transfer of material is not accepted by DOE the exemptions should continue until implementation of Exxon Nuclear's plan is accomplished in accordance with the following paragraph.

If the DOE response to our request is negative, actions would be taken to permit submittal of a revised security plan required by 10 CFR 73.20

May 6, 1980

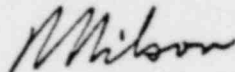
(c) (1) and of information and plans required by 10 CFR 25 and 95 by December 31, 1980. Full compliance with the requirements of 10 CFR 25 and 95 could then be anticipated about April 1981 and compliance with the requirements of the physical protection upgrade rule could be achieved by about September 1981, assuming timely approval of the submitted plans.

During the time period of the exemption, the existing physical protection system and document control practices and procedures would remain in force. Exxon Nuclear would remain abreast of on-going classification activities to facilitate rapid implementation of 10 CFR 25 and 95 requirements, if necessary. In addition, all internal copies of the Exxon Nuclear Company Physical Protection Plan, Contingency Plan, Guard Training Plan and all security system design and installation drawings would be stored in GSA approved security containers, access to which would be under the control of personnel with existing DOE clearances.

Your prompt review and approval of this application for temporary exemptions from the recently revised and new regulations as described above is requested. The total program as outlined herein is believed to be consistent with government non-proliferation objectives. We believe the requested exemptions are authorized by law and would not constitute an undue risk to the common defense and security. We reiterate our belief that the Exxon Nuclear plutonium inventory can be expeditiously reduced to less than 2 kg and, as a consequence, additional expenditures of funds to implement or prepare for implementation of system changes responsive to 10 CFR 25, 95 and 73 is not warranted due to the limited time between required implementation and the anticipated inventory reduction. Furthermore, we are confident that the program for decommissioning which we are proposing to undertake with DOE participation would lead to the gathering of a substantial body of useful knowledge.

If you have any questions with regard to this request or if you desire additional information please contact me on (509) 375-7286 or Mr. L. E. Hansen on (509) 375-7288. We would also be pleased to discuss these matters with you and your staff at your convenience.

Sincerely,



R. Nilson, Manager
Corporate Licensing and Compliance

RN:slr

cc: Robert F. Burnett, Director, Division of Safeguards



Department of Energy
Washington, D.C. 20545

APR 10 1980

8.7.0
E. R. ASTLEY

Mr. E. R. Astley
Vice President and Executive-in-Charge
Fuels Manufacturing Department
Exxon Nuclear Company, Inc.
2101 Horn Rapids Road
P. O. Box 130
Richland, Washington 99352

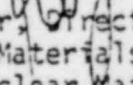
Dear Mr. Astley:

It was a pleasure to receive your March 19, 1980, letter regarding plutonium materials stored at Exxon Nuclear Company's Richland, Washington, facilities. In your letter, you indicated support of the Consumers Power Company's March 7, 1980, proposal to offer their plutonium to the Department of Energy (DOE) at no cost.

As I indicated in my March 21, 1980, letter to Mr. Curran, of your staff, in limited circumstances, DOE may have a program need for the quality of plutonium contained in Exxon inventories. We are reviewing the listing of the plutonium contained in your letter. We plan to have a position regarding the plutonium inventory in about ninety days.

I appreciate your assistance in contacting the owners of the material and their receptiveness to the proposal.

Sincerely,


R. K. Heusser, Director
Division of Materials Processing
Office of Nuclear Materials
Production

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APR 16 1980
R. CURRAN

EXXON NUCLEAR COMPANY, Inc.

2101 Horn Rapids Road
P. O. Box 130, Richland, Washington 99352
Phone (509) 375-8100 Telex 15-2876
ERA-80-81

March 19, 1980

Mr. Roger K. Heusser, Director
Division of Materials Processing
Office of Nuclear Materials Production
Department of Energy
Washington, D.C. 20545

Reference: Letter from R. J. Odlevak of Consumers Power
Company to R. K. Heusser of DOE dated March 7, 1980

Dear Mr. Heusser:

In the referenced letter, Consumers Power Company has proposed that the Department of Energy take title to the Consumers Power Company owned plutonium oxide and mixed oxide fuel materials that are presently stored in Exxon Nuclear Company's facility in Richland, Washington. The Consumers Power Company material makes up approximately 70% of the total plutonium inventory of 70,385 grams now stored at this site. Because of the increasing costs to meet new Nuclear Regulatory Commission security requirements and because of present government policy that prohibits the commercial use of plutonium fuel in the foreseeable future, the continued storage of plutonium fuel has become a significant cost burden to the industry. Therefore, it is our intention to arrange for proper disposal of our total inventory of plutonium fuel and eventually, for the decommissioning of our mixed oxide facility.

Accordingly, we support the Consumers Power Company proposal and request that the Department of Energy consider acceptance of our total inventory, along the lines of the Consumers Power Company proposal. Attachments I and II are listings of our total inventory of plutonium oxide powder and mixed oxide fuel materials by form, isotope, and owner. Exxon Nuclear Company is prepared to package all the material in accordance with appropriate DOE specifications for vault or 20 year temporary storage and to arrange for shipment to a designated government facility. We have been in contact with the other owners of the material in our inventory and they are receptive to this approach.

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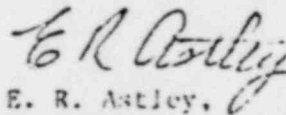
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March 19, 1980

There has also been some interest in Exxon Nuclear Company owned mixed oxide fabrication equipment indicated by the Westinghouse Hanford Company. Should the Department of Energy be interested in all or part of the mixed oxide equipment for use in government programs, Exxon Nuclear Company will make it available to them at no cost, once disposition of the existing plutonium inventory is complete.

It is our belief that this proposal is in keeping with government non-proliferation concerns and apparent desire to place all plutonium and mixed oxide fuel under direct government control.

Very truly yours,
Exxon Nuclear Company, Incorporated



E. R. Astley,
V. President & Executive-in-Charge
Fuels Manufacturing Department

/ds

Attachments (2)

cc ER Van Hoof, Consumers Power Company

bc: R. C. Curran
R. Nilson
R. K. Robinson

I.J. Samaritano

ATTACHMENT 1 - (LNC INVENTORY OF ^{239}Pu)

| <u>Owner</u> | <u>Wt. (gm Pu)</u> | <u>Z Fissile</u> | <u>Z Pu_{90}</u> | <u>Z Pu</u> |
|--------------------------|--|------------------|--------------------------------------|---------------------------------|
| Clean Plutonium Oxide | | | | |
| Consumers Power Co. | 134 | 80.38 | 16.8 | 86.66 |
| " " | 198 | 82.76 | 14.8 | 86.30 |
| " " | 34 | 81.81 | 15.4 | 86.88 |
| " " | 50 | 82.00 | 15.7 | 85.86 |
| " " | 121 | 81.88 | 16.0 | 86.71 |
| " " | 58 | 80.08 | 19.2 | 87.05 |
| " " | 88 | 82.10 | 16.3 | 87.09 |
| " " | 17 | 80.96 | 17.1 | 87.22 |
| " " | 54 | 79.39 | 18.1 | 87.27 |
| " " | 86 | 80.08 | 19.1 | 87.20 |
| " " | 244 | 78.27 | 19.6 | 87.45 |
| " " | 21 | 79.00 | 19.7 | 87.45 |
| " " | <u>101</u> | 79.30 | 19.8 | 87.37 |
| | 1206 | | | |
| Plutonium Oxide Dirty | | | | |
| " " | 18 | 80.38 | 16.8 | 86.66 |
| " " | 1601 | 81.25 | 16.1 | 74.39 |
| " " | 242 | 79.39 | 18.1 | 87.21 |
| " " | <u>12</u> | 78.27 | 19.6 | 87.45 |
| | 1873 | | | |
| Clean Plutonium Oxide | | | | |
| General Public Utilities | 33 | 81.82 | 16.4 | 85.30 |
| " " " | 203 | 82.26 | 16.4 | 87.14 |
| " " " | <u>1</u> Portal Monitor | | 16.4 | 85.30 |
| | 237 | | | |
| Plutonium Oxide Dirty | | | | |
| " " " | 3 | | 16.4 | 87.14 |
| " " " | <u>391</u> | 82.35 | 16.4 | 63.80 |
| | 394 | | | |

- 4 -
ATTACHMENT I, cont'd.

| <u>Owner</u> | <u>Wt. (gm PU)</u> | <u>Z Fissile</u> | <u>Z ^{239}Pu</u> | <u>Z PU</u> |
|-------------------------------|-----------------------|------------------|---------------------------------------|-------------|
| | Clean Plutonium Oxide | | | |
| Kernkraftwerk, Lingen | 133 | 80.45 | 19.2 | 87.05 |
| Electric Power Research Inst. | 6 | 79.39 | 18.1 | 57.47 |
| " " " | <u>9</u> | 78.77 | 19.6 | 87.45 |
| | <u>15</u> | | | |
| Total PuO_2 | 3858 | | | |

ATTACHMENT 11 - (EMC INVENTORY OF MIXED OXIDE)

| <u>Owner</u> | <u>Form</u> | <u>Wt. (gm PU)</u> | <u>% PU</u> |
|--------------------------|----------------------------|--------------------|-------------|
| Consumers Power Co. | Fuel Rods | 31,528 | 4.6 - 4.8 |
| " " | Sintered Pellets | 3,459 | " " |
| " " | Green Scrap | 778 | " " |
| " " | Sintered Scrap | 8,780 | " " |
| " " | Powder | 1,119 | " " |
| " " | Sintered Powder (Swarf) | 2,470 | " " |
| " " | Samples | <u>3</u> | |
| | | 48,137 | |
| General Public Utilities | Fuel Rods | 4,832 | 1.9 - 2.7 |
| " " | Sintered Pellets | 785 | " " |
| " " " | Green Scrap | 84 | " " |
| " " " | Sintered Scrap | 1,513 | " " |
| " " " | Clean Powder | 3 | " " |
| " " " | Dirty Powder | 17 | " " |
| " " " | Sintered Powder (Swarf) | <u>124</u> | " " |
| | | 7,384 | |
| Kernkraftwerk, Lingen | Fuel Assemblies | 5,893 | 1.4 - 2.3 |
| " " | Fuel Rods | 645 | " " |
| " " | Sintered Pellets | 327 | " " |
| " " | Green Scrap | 247 | " " |
| " " | Sintered Scrap | 1,678 | " " |
| " " | Clean Powder | 15 | " " |
| " " | Dirty Powder | 52 | " " |
| " " | Sintered Powder (Swarf) | 174 | " " |
| " " | Samples | <u>1</u> | " " |
| | | 9,037 | |

ATTACHMENT II, cont'd.

| <u>Owner</u> | <u>Form</u> | <u>Wt. (gm PU)</u> | <u>% PU</u> |
|--------------------------------------|------------------|--------------------|--------------------------------------|
| Electric Power Research Institute | Mixed Oxied | 115 | 3.1 - 4.8 |
| Exxon Nuclear Company | Fuel Rods | 192 | 2.5 |
| " " " | Sintered Pellets | 182 | 2.5 |
| " " " | Green Scrap | 6 | 1.4 |
| " " " | Sintered Scrap | 2,519 | 2.5 |
| " " " | Clean Powder | 87 | 2.5 - 5.0 |
| " " " | Sample | <u>2</u> | 3.3 |
| | | <u>2,938</u> | |
| | Total PU as MO | 67,660 | |
| | Total PU as PUO | <u>3,858</u> | |
| | Total PU | 71,518 | - 1976 Inventory basis |
| | Total PU | 70,585 | - 1980 Basis corrected for decay. |