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71-6581

EXXON NUCLEAR COMPANY, Inc.
RESEARCH AND TECHNOLOGY CENTER
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November 30, 1979

Mr. C. E. MacDonald, Chief
Transportation Certification Branch
Division of Fuel Cycle and Material Safety
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

- Reference: 1) Docket No. 71-6581
- 2) Certificate of Compliance No. 6581
- 3) Letter, C. E. MacDonald to W. S. Nechodom,
dated October 18, 1979.

Dear Mr. MacDonald:

Please find enclosed eight copies of revised pages for the Consolidated License Application for Exxon Nuclear Model 51032-1 and -1a Shipping Containers", XN-52, Revision 1. Guides for inclusion of the revised pages in your version of XN-52, Rev. 1, dated June 1979 are included with each set of revised pages.

Responses to each of your specific requests/comments/questions are given below:

Structural

1. Provide a listing of the licensing drawings for each of the two models of the packagings. Indicate the Drawing No., Sheet No., and Revision No. for each drawing.

A listing of the licensing drawings for the two packaging models is provided in Attachment 1. Drawing, sheet, and revision numbers are given for each.

2. Provide a copy of each licensing drawing. Each drawing should indicate the Drawing No., Sheet No., Revision No., and the Model No. of the packaging.

The present drawings are not legible, do not indicate all safety features, contain extraneous material, and are unorganized (number of drawings should be reduced to a minimum).

Changes have been made to a number of the drawings to improve the clarity. The sequence of presentation was modified somewhat and the number of drawings reduced as appropriate. The text of Sections 2, 5, 10 and Appendix V were changed to reference the revised drawings.

AN AFFILIATE OF EXXON CORPORATION

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Some extraneous material is still presented in the drawings, but the level of detail of such information is reduced. We believe that all safety related details are now shown.

3. Identify the changes made to any of design features shown on the revised drawings from the currently approved design and show that the modified design meets the requirements of 10 CFR Part 71.

Design changes shown are indicated in Attachment 1 and reference is made to the location in the application where the safety related effect of the design changes is discussed. Each change has been shown to meet the requirements of 10 CFR 71 either by separate evaluation or evaluation versus the features of the currently licensed packages.

Criticality

1. Provide specific details of each experimental array used to support the calculational methods in the criticality safety analyses. Delineate all simplifying assumptions made and adjustments made to obtain the reported results.

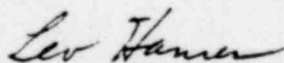
Additional details of benchmark calculations used to support the criticality safety calculational methods is provided by the inclusion of document XN-NF-499, "Criticality Safety Benchmark Calculations for Low-Enriched Uranium Metal and Uranium Oxide Rod-Water Lattices". That document (Reference 7) is referenced in Sections 12.1.3.1 and 12.1.3.2 and three (3) copies are enclosed herewith. The list of references, Section 13, is changed accordingly.

2. Provide appropriate copies (3) of References 4 and 6.

Three (3) copies of each of those references are enclosed.

With respect to our application for renewal, please be reminded that the extension is valid only until January 31, 1980. Due to our need to maintain a valid IAEA Certificate of Competent Authority for these shipping container models your early review and approval of this application is desired. If you have any additional questions or if additional information is needed to complete your review, please contact me on (509) 375-7288 at the earliest possible time.

Sincerely,



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L. E. Hansen, Senior Specialist
Criticality Safety and Physical Security

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Attachments

ATTACHMENT 1

LICENSING DRAWINGS

<u>Ref. Figure Number</u>	<u>Drawing Number</u>	<u>Applicable Package Model(s)</u>	<u>Changes from Currently Licensed Package</u>	<u>Change Justification</u>
2.3	XN-NF-303,359 Sheet 1, Rev. 1	51032-1 & -1a	No design changes - redrawn for clarity.	Not applicable.
2.4	XN-NF-303,360 Sheet 1, Rev. 1	51032-1 & -1a	No design changes - redrawn for clarity.	Not applicable.
2.5	XN-NF-303,898 Sheet 1, Rev. 0	51032-1	No design changes - redrawn to delete some non-safety related details.	Not applicable.
2.6	JN-300,607 Sheet 1, Rev. 0	51032-1	No change.	Not applicable.
2.7	XN-NF-303,891 Sheet 1, Rev. 0	51032-1	New strongback design - reduced length.	See Section 10.1.2.3, for justification of the strongback design.
2.8	JN-600,843 Sheet 1, Rev. 3	51032-1	No change.	Not applicable.
2.9	JN-600,844 Sheet 1, Rev. 2	51032-1	No change.	Not applicable.
2.10	XN-NF-303,890 Sheet 1, Rev. 0	51032-1	No design change - some non-safety related details were deleted.	Not applicable.

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ATTACHMENT 1 (Continued)

LICENSING DRAWINGS (Continued)

<u>Ref. Figure Number</u>	<u>Drawing Number</u>	<u>Applicable Package Model(s)</u>	<u>Changes from Currently Licensed Package</u>	<u>Change Justification</u>
2.11	XN-NF-300,609 Sheet 1, Rev. 1	51032-1	No design changes - redrawn to include specification of materials and thrust plate details.	Not applicable.
2.12	XN-NF-303,364 Sheet 1, Rev. 1	51032-1 & -1a	No design changes - redrawn for clarity and to show applicability to both packaging models.	Not applicable.
2.13	XN-303,897 Sheet 1, Rev. 0	51032-1	Includes aluminum BWR clamp assembly design & consolidates packaging details for BWR fuels.	See Section 10.1.2.2 for justification of the aluminum clamp design.
2.14	XN-NF-303,357 Sheet 1, Rev. 1	51032-1a	No design changes - some safety related information was added and non-safety related information was deleted.	Not applicable.
2.15	XN-NF-303,354 Sheet 1, Rev. 2	51032-1a	No design changes - redrawn to delete non-safety related detail and include safety related information from sheet 2 of the prior drawing.	Not applicable.

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ATTACHMENT 1 (Continued)

LICENSING DRAWINGS (Continued)

<u>Ref. Figure Number</u>	<u>Drawing Number</u>	<u>Applicable Package Model(s)</u>	<u>Changes from Currently Licensed Package</u>	<u>Change Justification</u>
2.16	XN-NF-303,357 Sheet 2, Rev. 1	51032-1a	Basic design remains unchanged. Washer size increased for additional joint strength.	See Section 10.2.4 and Appendix V, page V-2 & Section V.5 for justification.
2.17	XN-NF-303,356 Sheet 1, Rev. 1	51032-1a	No design change - title change and minor deletions of non-safety related details.	Not applicable.
2.18	XN-NF-303,818 Sheet 1, Rev. 0	51032-1a	Aluminum clamp design for packaging BWR fuel elements.	See Appendix V, Section V.4 for justification.
2.19	XN-NF-303,355 Sheet 1, Rev. 1	51032-1a	No design changes - revised for clarity of packaging detail and title change.	Not applicable.
2.20	XN-NF-303,358 Sheet 1, Rev. 1	51032-1a	No design changes - redrawn for clarity.	Not applicable.

ATTACHMENT 2

SUMMARY OF CHANGES TO XN-52, REVISION 1

<u>Section No.</u>	<u>Page No(s).</u>	<u>Change Summary</u>
2.1.1	2-4 (1st para.)	Added reference to Section 2.1.2 for calculation of minimum separator block requirement.
2.1.1	2-6	Added reference to Figure 2.12 in next to last paragraph of Section.
2.1.2	2-5 to 2-8	The title of the section was changed and references to figures revised as appropriate. Wording was changed as needed due to the inclusion of information from 3 figures onto 1 figure. Minimum separator block requirements were included.
2.2.1	2-8 to 2-9	Wording revised for clarity of presentation and references to figures were revised as appropriate.
2.2.2	2-9 to 2-10	Same as Section 2.1.2 changes, except applicability is to the Model -1a package rather than the -1 package.
Figures	2-22 to 2-41	Revised as indicated in Attachment 1.
5.0	5-2	Wording revised for clarity.
10.1.2.2	10-6	Reference figure number changed.
10.2	10-10	Reference figure number changed, and wording revised for clarity.
10.2.4	10-14	Reference figure number changed.
12.1.3.1	12-6	Additional reference data provided.
12.1.3.2	12-6	Same as for 12.1.3.1.
Remainder of Section 12	12-7 to 12-27	No change. Pagination affected due to changes in Section 12.1.3.1 and 12.1.3.2.
Appendix V	V-1, V-6, V-8 & V-9	Reference figure numbers changed.

GUIDE FOR INCLUSION OF REVISED PAGES

OF XN-52, REVISION 1

1. Replace the title page and pages ii through xii with attached pages having an identical numbering sequence.
2. Replace Section 2 (all pages, including drawings) with the attached Section 2.
3. Replace Section 5 (all pages) with the attached Section 5.
4. Replace pages 10-6, 10-10, and 10-14 of Section 10 with the attached pages 10-6, 10-10 and 10-14.
5. Replace pages 12-1 through 12-27 of Section 12 with the attached pages 12-1 through 12-7.
6. Replace page 13-1 (Section 13) with the attached page 13-1.
7. Replaces pages V-1, V-6, V-8 and V-9 of Appendix V with the attached pages V-1, V-6, V-8 and V-9.

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