



NUCLEAR ENERGY SERVICES

A UNIT OF QUALCORP

July 30, 1985
Ref. No. WMS-662

MS 16
P6

Mr. Lawrence F. Friedman, Ph.D., C.H.P.
Senior Radiation Specialist
Nuclear Materials Section B
Division of Engineering and Technical Programs
U.S. Nuclear Regulatory Commission - Region I
631 Park Avenue
King of Prussia, PA 19406

SUBJECT: Revision to By-Product Material License Application

REFERENCE: (1) Docket No. 030-22060, Control No. 03234
(2) NUREG-0767
(3) Telecon F. Trejo to L. Friedman, 7/29/85

Dear Dr. Friedman:

NES is submitting herewith a revised Page one (1) of our Application for Byproduct Material License (NRC Form 313ID). Changes have been made only on Item-8, Licensed Material, lines No. (2) and No. (3).

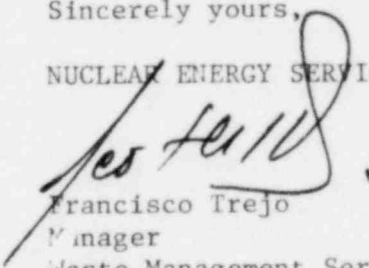
These changes to our application reflect a revision of the isotopic possession limits that will not exceed the maximum stated in NUREG-0767. Therefore, the need for a contingency plan should not be a requirement for our application.

We hope that this submittal constitutes the final round of review and that our license application is processed in a timely manner after receipt of this transmittal.

Should you have any questions, please contact me.

Sincerely yours,

NUCLEAR ENERGY SERVICES


Francisco Trejo
Manager
Waste Management Services

8604040005 850830
REG1 LIC30
06-20775-01 PDR

FT:cp
enclosure

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| NRC Form 313 I (12-81) 10 CFR 30 | | U.S. NUCLEAR REGULATORY COMMISSION | | 1. APPLICATION FOR: <i>(Check and/or complete as appropriate)</i> | |
|--|---|---|--|---|-----------------------|
| APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL | | | | <input checked="" type="checkbox"/> | a. NEW LICENSE |
| <i>See attached instructions for details.</i> Completed applications are filed in duplicate with the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety, and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland. | | | | b. AMENDMENT TO: LICENSE NUMBER | |
| | | | | c. RENEWAL OF: LICENSE NUMBER | |
| 2. APPLICANT'S NAME <i>(Institution, firm, person, etc.)</i> Nuclear Energy Services TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (203) 796-5000 | | | 3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION John R. May, Radiation Safety Officer TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (203) 796-5308 | | |
| 4. APPLICANT'S MAILING ADDRESS <i>(Include Zip Code)</i> <i>(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)</i> 1000 Shelter Rock Road Danbury, CT 06810 | | | 5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED <i>(Include Zip Code)</i> See Attachment 1 | | |
| (IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.) | | | | | |
| 6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL <i>(See Items 16 and 17 for required training and experience of each individual named below)</i> | | | | | |
| FULL NAME | | | TITLE | | |
| a. Radioactive materials to be used by or under the direct supervision of individuals designated by the Radiological Safety Committee. See Attachment 2. | | | | | |
| b. | | | | | |
| c. | | | | | |
| 7. RADIATION PROTECTION OFFICER | | | Attach a resume of person's training and experience as outlined in items 16 and 17 and describe his responsibilities under Item 15. | | |
| 8. LICENSED MATERIAL | | | | | |
| LINE NO. | ELEMENT AND MASS NUMBER | CHEMICAL AND/OR PHYSICAL FORM | NAME OF MANUFACTURER AND MODEL NUMBER <i>(If Sealed Source)</i> | MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME | |
| A | B | C | D | | |
| (1) | Any Byproduct Material with Atomic Numbers 3-83 except as noted below | Any | N/A | 50,000 curies total | |
| (2) | See Appendix A | Any | N/A | Refer to Appendix A | |
| (3) | Source Material other than those of line(2) | Any except as a gas or liquid | N/A | 10,000 curies total | |
| (4) | above | | | | |
| DESCRIBE USE OF LICENSED MATERIAL E | | | | | |
| (1) | See Attachment 3 | | | | |
| (2) | | | | | |
| (3) | | | | | |
| (4) | | | | | |

APPENDIX A
SUPPLEMENTAL INFORMATION
TO ITEM 8 OF NRC FORM 313 I

I. PURPOSE

The purpose of this Appendix A is to establish the NES' license possession limits for any by-product material quantities of atomic numbers 3 through 83, inclusive, in order not to exceed the quantities stated in the SCHEDULE OF LIMITING POSSESSION LIMITS of NUREG-0767, Table I.

II. REFERENCES

A. NUREG-0767

"Criteria for Selection of Fuel Cycle and Major Materials Licenses Needing Radiological Contingency Plans," published on July, 1981.

III. LIMITING POSSESSION LIMITS AND CONDITIONS

A. Limits

Table A.1 is a listing of radioisotopes with their respective limiting license possession quantities.

B. Conditions

The NES' Radiation Safety Officer or his designee (i.e., Radiological Site Supervisor) shall ensure compliance with the license possession limits at all times. The following conditions shall be met and are hereby made part of the license application.

Condition #1: Where NES is authorized to possess a single radionuclide in forms other than as sealed sources or special form, NES shall not exceed the quantity specified for that radionuclide in Table A.1 herein.

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Appendix A

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B. Conditions (Continued)

Condition #2: Where NES is authorized to possess two or more radionuclides, in forms other than as sealed sources or special form, NES shall not exceed unity as a result of the sum of the quotients of the authorized possession limits for individual radionuclides divided by the quantities of those radionuclides as specified in Table A.1 herein.

TABLE A.1

Schedule of
Limiting Possession Limits
Arranged Alphabetically by Elements

| <u>Radionuclide</u> | <u>Limiting Possession Limits</u> <u>Curies</u> |
|---------------------|--|
| Americium-241 | 0.30 |
| Americium-243 | 0.30 |
| Antimony-124 | 1,000 |
| Barium-140 | 2,000 |
| Cadmium-113m | 1,500 |
| Calcium-45 | 800 |
| Carbon-14 | 1,300 |
| Californium-252 | 0.30 |
| Cesium-134 | 350 |
| Cesium-137 | 600 |
| Chromium-51 | 150,000 |
| Cobalt-60 | 4,000 |
| Copper-64 | 50,000 |
| Curium-242 | 8.0 |
| Curium-244 | 0.50 |
| Gold-198 | 100,000 |
| Hydrogen-3 | 6,000 |
| Iodine-125 | 8.0 |
| Iodine-129 | 1.0 |
| Iodine-131 | 3.3 |
| Iridium-192 | 50,000 |
| Iron-55 | 30,000 |
| Iron-59 | 2,400 |
| Krypton-85 | 7,000 |
| Manganese-54 | 1,500 |
| Manganese-56 | 120,000 |
| Molybdenum-99 | 3,000 |
| Neptunium-237 | 0.20 |
| Nickel-63 | 5,000 |
| Niobium-95 | 5,000 |
| Phosphorus-32 | 15 |
| Plutonium-238 | 0.10 |
| Plutonium-239 | 0.10 |
| Polonium-210 | 3.2 |
| Praseodymium-147 | 3,500 |
| Ruthenium-103 | 1,500 |
| Ruthenium-105 | 15,000 |
| Scandium-46 | 2,500 |
| Selenium-75 | 500 |
| Silver-110m | 500 |

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TABLE A.1
(Continued)

| | |
|----------------|---------|
| Strontium-90 | 25 |
| Sulfur-35 | 400 |
| Tantalum-182 | 15,000 |
| Technetium-99m | 200,000 |
| Thallium-204 | 30,000 |
| Thulium-170 | 1,000 |
| Thorium-228 | 0.30 |
| Tin-113 | 10,000 |
| Tin-123 | 1,000 |
| Tungsten-187 | 5,000 |
| Uranium-233 | 5.0 |
| Xenon-133 | 10,000 |
| Zinc-65 | 2,500 |
| Zirconium-93 | 5,000 |
| Zirconium-96 | 1,300 |