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January 17, 1990

Ms. B. Wright
Nuclear Regulatory Commission
Export/Import and International Safeguards
Office of International Programs, OWFN-3H9
Washington, D.C. 20555

Dear Ms. Wright:

I attach for your kind consideration an application to export TMI-2 samples including fuel rods to Japan for testing and analysis at the Japan Atomic Energy Research Insitute's Tokai Research Establishment. Please also note the two page attachment to the export license application providing further detail on the quantities of total uranium and U-235 as well as the quantities of principal radionuclides.

Please contact me if you require any additional information in support of this application.

Sincerely,

R.H. Fisk
Vice President, International

Attachment

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PDR XPORT
XSNM-2500 PDC

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TMI-2 SAMPLES FOR EXAMINATION BY THE JAPAN ADVANCED ENERGY RESEARCH INSTITUTE

Sample identification [a]	Constituent weight (grams)		
	Gross	Uranium [b]	U-235 [c]
1. D8-P3-D3	74.6	48.5	1.4
2. D8-P3-D4	59.8	38.9	1.2
3. D8-P3-E	160	104	3.1
4. G12-P1-D4 (SEM mount)	38.8	25.2	0.8
5. O7-P4-A	137	88.7	2.6
6. O7-P4-F	148	96.1	2.9
7. D4-R12-2 (fuel rod)	d	71.9	2.1
8. D4-R12-4 (fuel rod)	d	71.9	2.1
9. D4-R12-6 (fuel rod)	d	71.9	2.1
10. D4-R12-8 (fuel rod)	d	71.9	2.1
11. G8-R6-2 (fuel rod)	d	71.9	2.1
12. N12-R4-2 (fuel rod)	d	71.9	2.1
13. N12-R4-4 (fuel rod)	d	71.9	2.1
14. N12-R4-6 (fuel rod)	d	71.9	2.1
15. N12-R7-2 (nonfuel)	e	e	e
16. N12-R7-4 (nonfuel)	e	e	e
17. N12-R7-6 (nonfuel)	e	e	e
18. D4-P2-C	6.2	4.0	0.1
19. G8-P6-A	20.5	13.3	0.4
20. G12-P8-B	48.5	31.5	0.9
21. G12-P3-A	45	29.2	0.9
22. G12-P2-D	40	26.3	0.8
23. H9/K9-P4	26	16.9	0.5
24. H9/K9-P6	72.3	47	1.4
25. H9/K9-P5	30.4	19.8	0.6
26. N5-P1-F	17.9	11.6	0.4
27. N12-P1-B	0.6	0.4	0.01
28. O7-P1-A2	3.8	2.5	0.07
29. M11-P1	1671	1086	32.4
30. D8-P2-C	135.6	88.1	2.6
31. D8-P2-D	92.7	60.2	1.8
32. M11-P10	62.6	40.7	1.2
33. D8-P3-A3	35.2	22.9	0.7
34. D8-P3-A4	39.2	25.5	0.8
35. D8-P3-A5	22.2	14.4	0.4
36. G12-R12-2 (nonfuel)	e	e	e
37. G12-R12-4 (nonfuel)	e	e	e
38. G12-R12-6 (nonfuel)	e	e	e
39. G12-R12-8 (nonfuel)	e	e	e
40. K9-R4-2 (nonfuel)	e	e	e
41. K9-R4-4 (nonfuel)	e	e	e
41. 7-7	0.4	0.3	<0.01
42. 11-4-B	1.3	0.8	0.02

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TMI-2 SAMPLES FOR EXAMINATION BY THE
JAPAN ADVANCED ENERGY RESEARCH INSTITUTE
(Continued)

Sample identification [a]	Constituent weight (grams) Gross	Uranium [b]	U-235 [c]
43. 11-6-B	3.5	2.3	0.07
44. E9-4	9.3	6.0	0.2
45. H8-1	12.3	7.9	0.2
46. Fr seg #6 (fuel rod)	d	71.9	2.1
47. fuel rod 3-28	d	179.8	5.3
48. G8-P11-A	93.5	60.8	1.8
49. G8-P11-D	390	253.5	7.6
50. G8-P11-G	209	135.8	4.0
51. G8-P11-K	86.3	56.1	1.7
52. G12-P1-E	60.6	39.4	1.2
TOTAL	3854	3331.5	99

a. Each of the samples will be contained in individual sample containers. At the time the samples are packaged, a loading diagram will be prepared which describes the packaging and location in the capsules.

b. For prior molten material, the fuel material content (approximately 60%) is estimated based on prior molten material examinations. The radionuclide content for the fuel material present was calculated based on the ORIGEN2 code. Principal radionuclide concentrations per gram of fuel on April 1, 1987 are:

Radionuclide	Concentration (microcuries/g U)
^{90}Sr	8045
^{106}Ru	187
^{129}I	2.70E-3
^{137}Cs	9659
^{144}Ce	248
^{154}Eu	45.6
^{155}Eu	84.4
^{239}Pu	1.14E+2

c. U-235 enrichment used to calculate the isotope concentrations was the maximum in the reactor core (2.98%).

d. The samples are intact fuel rods (mostly 10.2 cm in length) that are primarily uranium.

e. Non fuel material including control rods, guide tubes and other requested components with minimal amounts of surface contamination.