Enclosure 1.

DCS/DF02

NRC FORM 7 (1-89) 10 CFR 110

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB 3150-0027 EXPIRES 12-31-90

APPLICATION FOR LICENSE TO EXPORT NUCLEAR MATERIAL AND EQUIPMENT *(See Instructions on Reverse)*

1. APPLICANT'S USE →	a. DATE OF APPLICATION	b. APPLICANT'S REFERENCE	2. NRC USE →	a. DOCKET NO. 11004253	b. LICENSE NO. XCOM 1033
		PNC-1			

3. APPLICANT'S NAME AND ADDRESS	RIS	4. SUPPLIER'S NAME AND ADDRESS *(Complete if applicant is not supplier of material)*	RIS
a. NAME U. S. Department of Energy		DOE Contractor DE-AC05-84OR2140	
b. STREET ADDRESS Office of Nuclear Energy (NE-471, GTN)		a. NAME Martin Marietta Energy Systems, INC.	
c. CITY Washington; STATE DC; ZIP CODE 20545		b. STREET ADDRESS Oak Ridge National Laboratory,P.O.Box 2008	
c. TELEPHONE NUMBER *(Area Code – Number – Extension)* 301-353-4078		c. CITY Oak Ridge; STATE TN; ZIP CODE 37831	

5. FIRST SHIPMENT SCHEDULED	6. FINAL SHIPMENT SCHEDULED	7. APPLICANT'S CONTRACTUAL DELIVERY DATE	8. PROPOSED LICENSE EXPIRATION DATE	9. U.S. DEPARTMENT OF ENERGY CONTRACT NO. *(If Known)*
1989	1999	N/A	12-31-99	DOE/PNC Fuel Cycle Agt. Appvd 1/12/87,(6/24/87)

10. ULTIMATE CONSIGNEE	RIS	11. ULTIMATE END USE *(Include plant or facility name)*	
a. NAME Power Reactor and Nuclear Fuel Develop. Corp		Equipment and systems will be used in a developmental test program in both cold and radioactive environments in a combination of engineering development facilities (continued below in 13.)	
b. STREET ADDRESS Tokai Works, Tokai Mura, Ibaraki-ken		11a. EST. DATE OF FIRST USE	
c. CITY – STATE – COUNTRY Japan Post No. 319-11			
12. INTERMEDIATE CONSIGNEE	**RIS**	**13. INTERMEDIATE END USE**	
a. NAME N/A		and a pre-pilot plant facility to determine performance characteristics and identify design changes needed to improve performance. Results will be utilized in the design of prototype units.	
b. STREET ADDRESS		13a. EST. DATE OF FIRST USE	
c. CITY – STATE – COUNTRY			
14. INTERMEDIATE CONSIGNEE	**RIS**	**15. INTERMEDIATE END USE**	
a. NAME N/A		N/A	
b. STREET ADDRESS		15a. EST. DATE OF FIRST USE	
c. CITY – STATE – COUNTRY			

16. NRC USE	17. DESCRIPTION *(Include chemical and physical form of nuclear material; give dollar value of nuclear equipment and components)*	18. MAX. ELEMENT WEIGHT	19. MAX. WT. %	20. MAX. ISOTOPE WEIGHT	21. UNIT
	The equipment consists of experimental devices used in the development of advanced techniques for the recovery of fast reactor fuels for the unit operations and support systems as shown in Enclosure 2. Included are spare and replacement parts, monitoring and control devices and interface packages	N/A	N/A	N/A	N/A

22. COUNTRY OF ORIGIN – SOURCE MATERIAL	23. COUNTRY OF ORIGIN – SNM WHERE ENRICHED OR PRODUCED	24. COUNTRIES WHICH ATTACH SAFEGUARDS *(If Known)*
N/A	N/A	N/A

25. ADDITIONAL INFORMATION *(Use separate sheet if necessary)*

See enclosures to transmittal letter

1/1

26. The applicant certifies that this application is prepared in conformity with Title 10, Code of Federal Regulations, and that all information in this application is correct to the best of his/her knowledge.

27. AUTHORIZED OFFICIAL	a. SIGNATURE	b. TITLE
	Daniel E. Bullard	Dir Div of Fuel & Reprocessing

NRC FORM 7 (1-89)

Enclosure 2

Categories of R&D for the USDOE/Japan PNC Collaboration

Category	Item
I Continuous Head-End Process Technology	Head-End Integrated Process Control Laser Disassembly Fuel Shearing Fuel Dissolution Off-Gas Handling Sludge Handling
II Chemical Process Technology	Chemical Systems Test (CST) Fluid Transfer Solvent Extraction Contactors Flow Sheet Studies Solvent Treatment Process Automation & Control
III Advanced Remote Technology	Remote Maintenance Systems Rack Experiments Mechanical/Maintenance Test Rack Program Remote Sampling Signal Transmission Low-Flow Ventilation/ Environmental Test Chamber
IV Design Optimization of Facility	Design Support Safety Analytical Support Process Monitoring Radiation Dose/Effects Reliability, Availability, and Maintainability

Enclosure 3

United States Government

Department of Energy

memorandum

DATE: DEC 14 1989

REPLY TO ATTN OF: NE-471, GTN

SUBJECT: USDOE/Japan PNC Technology Exchange

TO: Zan Hollander, DP-323.1

Under the subject exchange, Department of Energy (DOE) has supplied on loan to the Power Reactor and Nuclear Fuel Development Corporation (PNC) of Japan three 4-stage banks of centrifugal contactors for testing in a research and development (R&D) facility in Japan. The units are, as stated in the Agreement, considered to be scientific, not having a commercial character. The units were designed as one of a series of experimental units, the test data from which will ultimately be used, along with other data, to design prototype centrifugal contactors for a demonstration in the mid-1990s in the Recycle Equipment Test Facility (RETF), now under design in Japan and at Oak Ridge. The tests in the research and development facility of the experimental units will include hydraulic tests, mass transfer evaluations, limited remote maintenance evaluations, and performance during continuous operation. The units will be used for cold tests only with natural or depleted uranium. Other design data for the contactors for use in the RETF will come from rack-mounted contactors to be cold tested at the Oak Ridge National Laboratory; these units have not yet been fabricated.

The objective of the demonstration in the mid-1990s in the RETF will be the testing of specially designed, rack mounted contactors under prototypical hot test conditions. Such conditions are not available in the United States. The RETF is being designed and will be constructed especially for an integrated equipment test. In scale and function, the RETF could be considered pre-pilot plant.

The experimental centrifugal contactor units that have been shipped were not designed for and will not and cannot be used for the reprocessing of spent nuclear fuel. These units are several stages of development from the prototype units that are planned to be used in the RETF. The Agreement provides for the return of the contactors after the test program in the R&D facility is completed in the early 1990s.

William H. McKee, for

David E. Bailey, Director
Division of Fuels and Reprocessing
Office of Facilities, Fuel Cycle,
and Test Programs
Office of Nuclear Energy

cc:
J. M. Rooney, DP-323
K. E. Horton, NE-14
R. A. Hunter, NE-47