FORM NRC-7
(7-78)
10 CFR 110

U.S. NUCLEAR REGULATORY COMMISSION

ACC

APPROVED BY GAO
B-180225(R0362)

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. LICENSE NO.	b. DOCKET NO.
	07/08/80	ZE-60185		XCOM0423	11502126

3. APPLICANT'S NAME AND ADDRESS	RIS	4. SUPPLIER'S NAME AND ADDRESS *(Complete if applicant is not supplier of material)*	RIS
a. NAME W. F. Pochal Westinghouse Electric Corporation		SAME	
b. STREET ADDRESS Industrial & Gov't. Tube Div. Westinghouse Circle		a. NAME	
c. CITY Horseheads, STATE N.Y. ZIP CODE 14845		b. STREET ADDRESS	
d. TELEPHONE NUMBER *(Area Code – Number – Extension)* (607) 796-3221		c. CITY STATE ZIP CODE	

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)*
11/30/80	11/30/80	6/27/80	11/30/81	

10. ULTIMATE CONSIGNEE	RIS	11. ULTIMATE END USE *(Include plant or facility name)*
a. NAME Tokai Research Establishment Japan Atomic Energy Research Institute		Japan Research Reactor 4 Tokai-Mura, Naka-Gun Ibaraki-Ken, Japan See Attached Application.
b. STREET ADDRESS 2-4 Shirakata-Shirane, Tokai-Mura		11a. EST. DATE OF FIRST USE
c. CITY – STATE – COUNTRY Naka-Gun, Ibaraki-Ken, Japan		
12. INTERMEDIATE CONSIGNEE	RIS	13. INTERMEDIATE END USE
a. NAME		
b. STREET ADDRESS -----		13a. EST. DATE OF FIRST USE
c. CITY – STATE – COUNTRY		
14. INTERMEDIATE CONSIGNEE	RIS	15. INTERMEDIATE END USE
a. NAME		
b. STREET ADDRESS -----		1980 JUL 14 AM 11 2
c. CITY – STATE – COUNTRY		15a. EST. DATE OF FIRST USE

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 WT.	21. UNIT
	WL-23084 Compensated Ionization Chamber $ 5250.00 *Copy to PDR and ACC 7-15-80 to ROO				

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

25. ADDITIONAL INFORMATION *(Use separate sheet if necessary)*
See attached Form 629 and Application Letter

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
	W. F. Pochal	Mgr., Customer Service

8007280372

JAPAN ATOMIC ENERGY RESEARCH INSTITUTE

TOKAI RESEARCH ESTABLISHMENT

TOKAI-MURA, NAKA-GUN, IBARAKI-KEN

APPLICATION

June 10, 1980

1) Uses of the Subject Product

JRR-4 (JAPAN-RESEARCH Reactor-4, swimming pool type) has been built as power reactor for shield research use such as nuclear-powered ship named "Mutsu", etc. In addition, the aforesaid reactor has a high effeciency of usage and is being widely used through the open research laboratory which is composed of Univ. of Tokyo, etc., as well as for research of RI, Physical/Chemical experiments, other basic research work relative to atomic power, research work internally at this research lab. In order that high accuracy of experiment/research can be obtained, it is a matter of primary importance for us to make available highly stable nuclear power (neutron flux) to research workers and engineers.

To meet the foregoing condition, it is essential to keep stable reactor power which depends upon accuracy of Compensated Ionization Chamber (hereinafter called "CIC"). To this end, Japan Atomic Energy Research Inst. has purchased reliable type WL-23084 of Westing-House manufacturing which has actually been purchased in the past.

As stated, this CIC is indispensable for the operating of nuclear reactor and being used for high academic and scientific research purpose on universal basis. The CIC is being utilized in the following portions of this reactor.

Neutron instrumentation system is made up of start-up system, main power system or power system (plural quantity) and safety system and is used with 4 pirces of CIC's as detector.

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The main power system consists of 2 linear amplitude systems (hereinafter called "Lin-N System") having an indicator of linear graduation, logarithm amplification reactor period system (hereinafter called "Log-N System") having indicator of logarithm graduation and 1 safety system. Lin-N System is utilized mainly for detecting of minute power and for automatic control. Log-N System is used for the detecting of overall power, and for detecting of degree of fast and slow of power variation. The safety system detects reactor power at the time of control system power supply being lost. The CIC being used in these systems are compatible and this products is used as spare for the aforementioned systems.

2) How to use the Subject Product

The CIC will detect neutron signal of each device. Log-N System indicates and records all power at 1 Range by logarithm graduation and measure rising temperature period of power by use of period amp. and prevents accidents such as "run-away" from occurring by emergency shut-down.

There are two Lin-N Systems which records linearity with a range-transfer device and provides signal for AUTO system. While automatic controller is in operation, Lin-N System drives a control rod by a deviation signal. There is one safety system which operates CIC amp. for safety system and observes reactor power when power supply to each CIC and each system run short, so that reactor power can be observed.

M. Isaka

M. Isaka
Member of JRR-4 Reactor
Control Section, JAERI

Address of JRR-4

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Tokai-mura, Naka-gun
Ibaraki-ken, Japan