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GENERAL ATOMIC COMPANY
P.O. BOX 81608
SAN DIEGO, CALIFORNIA 92138
(714) 455-3000

September 20, 1978

In reply
Refer to: IEL-980

XR-132

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Mr. Gerald G. Oplinger
Assistant Director for Export/Import
and Unencumbered Safeguards
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Application for Utilization Facility Export License

Dear Mr. Oplinger:

This application is made pursuant to 10CFR110 for a license to export a TRIGA Mark I research reactor to Morocco. The export of the reactor fuels, i.e. an expected 67 elements containing approximately 13 Kg uranium enriched less than 20% in U-235, will be the subject of a separate application in the near future. The AmBe start-up, other radioactive sources and fission chambers for the reactor's instrumentation system will be exported pursuant to the general license provisions of 10CFR110.

The applicant is General Atomic Company, a California partnership, whose address is shown above. The applicant is engaged in the development, manufacture and marketing of reactors, nuclear fuels and systems.

The applicant's partners are Gulf Oil Corporation and Scallop Nuclear, Inc., Pennsylvania and Delaware Corporations, respectively, whose addresses are:

Gulf Oil Corporation
Gulf Building
Pittsburgh, PA 15230

and
Scallop Nuclear, Inc.
One Rockefeller Plaza
New York, New York 10020

The partnership conducts its business principally at San Diego, California. It is not owned, controlled or dominated by an alien, a foreign corporation, or foreign government within the meaning of the Atomic Energy Act of 1954, as amended, and of NRC's regulations. In making this application, General Atomic is not acting as an agent or representative of any other person.

The purchaser of the reactor is the Ministry of Energy and ^{MR-251768} the Government of Morocco. The reactor will be located at the Mohammed V University, Faculty of Science, Avenue Moulay Cherif, Rabat, Morocco in the building of the Centre d'Etudes Nucleaires. The ultimate consignee, the specific individual to our knowledge unnamed as yet, is expected to be an official within the University staff.

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The reactor will be used for research and training in nuclear science and for isotope production. It is our understanding such activities will be accomplished pursuant to IAEA agreements. We also understand that Morocco has signed and ratified the Nuclear Nonproliferation Treaty (NPT).

We expect to be ready to make the first in the series of reactor tank and component shipments about March 1979 under the requested license. The final component shipment is scheduled for the third quarter of 1979. Fuel shipment is scheduled for early Spring 1980 and reactor startup is scheduled for early to mid-1980. General Atomic is subject to a schedule penalty of \$100 per day for every day after July 31, 1980 that the reactor is not operational.

The reactor being exported is a TRIGA Mark I with a nominal steady-state power of 100 KW thermal. The TRIGA Mark I is a below-ground, water-filled, pool-type reactor. The reactor core will consist of standard TRIGA fuel elements that are stainless-steel or Incoloy clad and utilizes an alloy of Uranium-Zirconium Hydride for the fuel material. The uranium is enriched in U-235 to less than 20% (nominal enrichment 19.9%). The reactor core is surrounded by a graphite reflector containing a "lazy Susan" sample irradiator.

The total value of all reactor facility items to be exported under the requested license will be approximately \$1,200,000.

The commodities exported under the requested license consists of 10CFR110, Appendix A, equipment and materials listed by category in the attachment.

Certain other items for temporary use in the reactor assembly, checkout and start-up will require export under this license and will be reimported under the general license of 10CFR110.11.

We request the timely issuance of a Utilization Facility Export License authorizing the export of a TRIGA Mark I Research Reactor to Morocco. We request the license have a validity period through May 1981 to accommodate possible schedule slippage during the construction and start-up of the reactor.

Very truly yours,

GENERAL ATOMIC COMPANY

William R. Mowry

William R. Mowry
Licensing Administrator
Nuclear Materials Control Division

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Attachment

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Typical Major Component &
Equipment List for TRIGA Mark I

Appendix A

Category	Description	Quantity
(a) (1)	Reactor Tank	1 ea.
(a) (2)	Fuel Handling Tool	1 ea.
(a) (3)	Fueled Follower Control Rods to be exported as fuel elements	3 ea.
(a) (4)	Not applicable	
(a) (5)	Not applicable	
(a) (6)	Not applicable	
(a) (7)	Graphite Reflector Assembly & Core Support Structure Core Grid Plates Control Rod Guide Tubes	1 ea. 1 set
(a) (8)	Control Rod Drive Assemblies Instrumentation System including Linear, log, period, reactivity computer, Logic & interlock channels, etc.	4 ea. 1 ea.
(a) (9)	Tank Top Cover & Bridge Assembly Lazy Susan Area Radiation Monitoring System Pneumatic Sample Transfer System & Central Thimble Dummy Graphite Elements Reactor pool water purification system Reactor pool water cooling system	1 ea. 1 ea. 1 ea. 36 ea. 1 ea. 1 ea.

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1978 SEP 26 (10) 11 35 Miscellaneous sub parts and spares for the above

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