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**THE 10 MW MULTIPURPOSE TRIGA REACTOR
AT
ONGKHARAK NUCLEAR RESEARCH CENTER, THAILAND**

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ABSTRACT

General Atomics (GA), has been selected to lead a team of firms from the United States, Japan, Australia and Thailand to design, build and commission the Ongkharak Nuclear Research Center near Bangkok, Thailand, for the Office of Atomic Energy for Peace. The facilities to be provided comprise of:

- A Reactor Island, consisting of a 10 MW TRIGA reactor that takes full advantage of the inherent safety characteristics of uranium-zirconium hydride (UZrH) fuel;
- An Isotope Production Facility for the production of radioisotopes and radiopharmaceuticals using the TRIGA reactor;
- A Waste Processing and Storage Facility for the processing and storage of radioactive waste from the facility as well as other locations in Thailand.

The centerpiece of the Center will be the TRIGA reactor, fueled with low-enriched UZrH fuel, cooled and moderated by light water, and reflected by beryllium and heavy water. The UZrH fueled reactor will have a rated steady state thermal power output of 10 MW, and will be capable of performing the following:

- Radioisotope production for medical, industrial and agricultural uses
- Neutron transmutation doping of silicon

- Beam experiments such as Neutron Scattering, Neutron Radiography (NR), and Prompt Gamma Neutron Activation Analysis (PGNAA)
- Medical therapy of patients using Boron Neutron Capture Therapy (BNCT)
- Applied research and technology development in the nuclear field
- Training in principles of reactor operation. reactor physics. reactor experiments, etc.

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