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A New Radioisotope Facility for Thailand

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The Thai Office of Atomic Energy for Peace (OAEP) is planning a new Nuclear Research Centre which will be located at Ongkharak, a greenfield site some 100 km North of Bangkok.

General Atomics (GA) has submitted a bid for a turnkey contract for the core facilities comprising a Reactor to be supplied by GA, an Isotope Production Facility supplied by ANSTO and a Waste Processing and Storage Facility to be supplied by Hitachi through Marubeni. The buildings for these facilities will be provided by Raytheon, the largest constructor of nuclear facilities in the USA.

The proposed Isotope Facility will consist of a 3000 m² building adjacent to the reactor with a pneumatic radioisotope transfer system. Hot cells, process equipment and clean rooms will be provided, as well as the usual maintenance and support services required for processing radiopharmaceutical and industrial products. To ensure the highest standards of product purity the processing areas will be supplied with clean air and operated at slightly positive pressure.

The radioisotopes to be manufactured include Phosphorus 32 (S-32 [n,p]P-32), I-131 (Te-130 [n,g]Te-131 [p]I-131) for bulk, diagnostic capsules and therapeutic capsules, Iridium 192 (Ir-191 [n,g]Ir-192) wire for radiotherapy and discs for industrial radiography sources and bulk Iodine 125 (Xe-124 [n,g]Xe-125 [beta]I-125 for radioimmunoassay.

The bid includes proposals for training OAEP staff during design and development at ANSTO's radioisotope facilities, and during construction and commissioning in Thailand.

The entire project is planned to take four years with commencement anticipated in early 1997.

The paper will describe the development of the design of the hot-cells, process equipment, building layout and ventilation and other services.