THE REALIZATION OF THE NEW ONGHARAK NUCLEAR RESEARCH CENTER IN THAILAND

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ABSTRACT

The Office for Atomic Energy for Peace (OAEP) in Thailand is establishing a new National Nuclear Research Center, consisting of a research reactor (RI), a radioisotope production facility (IPF) and a centralized waste processing and storage facility (WPSF). The start of this program has to be seen in the context of the industrial and economic development of Thailand and the increasing demand for radioactive isotopes for medical, agricultural and pharmaceutical applications. Electrowatt Engineering is working as a consultant and assists OAEP in this future-oriented project from its start in 1995 to the commissioning phase in the year 2000.

In a pre-qualification procedure in 1993, seven out of eleven potential suppliers have shown interest in providing the envisaged installations as a general contractor on a turnkey basis. This paper will give an overview over the organisation of the project, the generation of the Technical Specification and the technical requirements for the research center that will be located at Ongkharak, 60 km north-west from Bangkok. During the well defined evaluation program in the beginning of 1996 six proposals have been ranked and a recommendation has been given to OAEP. Technical clarifications and contract negotiations took place in Bangkok in the second half of 1996 and a final decision for the Contractor will be made in the first quarter of 1997.

The second part of the paper will give a description of the technical features of the RI, the IPF and WPSF. The experimental facilities foreseen are described in depth. Irradiation facilities for neutron transmutation, silicon doping and other planned experiments as well as reflector irradiation positions for radioisotope production and tangential and radial neutron beam tubes equipment will be discussed.

From the RI the irradiated targets are transferred to the IPF for further processing in various laboratories necessary for the production programs.

The radioactive waste will be treated and stored in the WPSF. This facility provides capacity to store immobilised waste for about 20 years. Extensions of this storage facility during operation are foreseen.