Jordan's Bridge to the Nuclear Age

JCNR is Jordan's world-class research reactor,

which will:

- Help Jordan establish its nuclear infrastructure and introduce nuclear power
- Position Jordan on the global nuclear renaissance map
- Support health, environmental, industrial, educational and economic objectives
- Produce quality radiopharmaceuticals for nuclear medicine
- Provide radioisotopes and neutron beams for scientific & industrial uses

The JCNR Project

- Scope : Design , Engineering , Construction and Commissioning of JCNR Reactor
- Owner : Jordan Atomic Energy Commission (JAEC)
- Contractor : Korean Consortium of KAERI and Daewoo E&C
- Period : August 2010 - March 2015
- Site : JUST University Campus, Ramtha

Contact

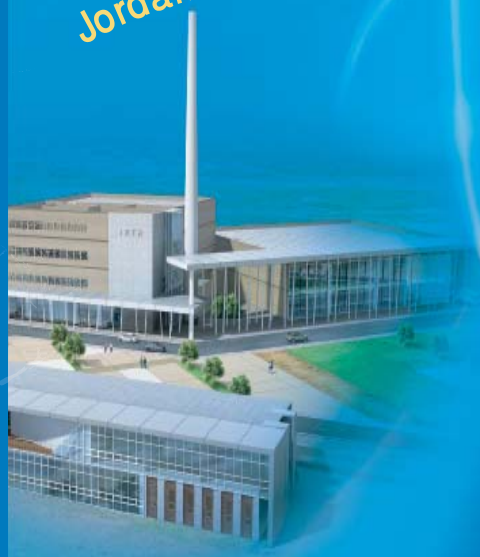
- Dr. Ned Xoubi
  Project Manager , JAEC , xoubi@jaec.gov.jo
- Dr. Jaejoo Ha
  KDC Representative , KAERI , jjha@kaeri.re.kr
- Mr. Jineui Hong
  Project Manager , Daewoo , jehong@dwconst.co.kr
- Dr. Sangik Wu
  Assistant PM , KAERI , siwu@kaeri.re.kr

JCNR

Jordan Center for Nuclear Research

المركـز الأردنـي للبحـوث النوويـة

Jordan's Bridge to the Nuclear Age



Ground Breaking Ceremony

November 23, 2010

KAERI
Korea Atomic Energy Research Institute

DAEWOO E&C

Jordan Center for Nuclear Research:

- is a 5 MW multi-purpose research reactor,
- aims to be one of the most high end research reactors in the region,
- will be indispensable as part of a nation-wide infrastructure for implementing nuclear power program,
- will play an important role in advancing national scientific & technological development.

DESIGN PHILOSOPHY

High Performance

- The JCNR provides high neutron flux.

Reliability

- The JCNR is a highly reliable system based on the proven HANARO technology in terms of design, manufacturing, construction, operation and maintenance.

Up-to-date Technology

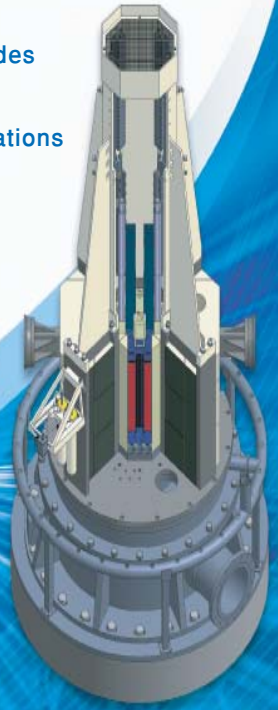
- The JCNR employs up-to-date evoluationary technology.

Design Fidelity

- The JCNR meets international codes and standards of safety.
- It will also adhere to safety Regulations in Jordan.

Flexibility

- The JCNR design fulfills user requirements.
- The JCNR provides operational flexibility for a wide spectrum of experiments.



DESIGN CHARACTERISTICS

Reactor Type	Open-Tank-In-Pool
Thermal Power (MW)	5 (upgrable to 10)
Max. Thermal Neutron Flux ($n/cm^2.sec$)	1.5×10^{14}
Fuel Element	Plate Type
Type	$U_3 Si_2$ - Al, 19.75% Enrichment
Fuel Material	Al
Clad Material	
Cycle Length	50 days
Coolant	H_2O
Moderator	H_2O
Reflector	Be/Graphite
Core Cooling	downward, forced convection flow
Reactor Control System &	Digitalized instrumentation and control,
Reactor Protection System	Two independent shutdown systems
Experimental Facilities	Vertical irradiation holes,
	Horizontal neutron beam ports