

REGULATORY INFRASTRUCTURE FOR LICENSING OF BUSHEHR NPP (IRA/9/015)

K1 New

MODEL PROJECT.

CORE FINANCING

YEAR	Experts		Group Activit.	Equipment	Fellowships		Scientific Visits		Group Training	Sub-Contracts	Misc Comp	TOTAL
	m/d	US \$	US \$	US \$	m/d	US \$	m/d	US \$	US \$	US \$	US \$	US \$
1997	4/0	52,800	0	0	6/0	18,900	1/15	14,400	0	0	0	86,100
1998	3/0	111,600	0	0	12/0	39,600	0/0	0	0	0	0	151,200
1999	5/0	88,200	0	0	0/0	0	0/0	0	0	0	0	88,200
2000	5/0	77,250	0	0	0/0	0	0/0	0	0	0	0	77,250

First Year Approved: 1997

OBJECTIVES: The development objective is to improve the overall safety of nuclear electric power generation. The project's specific aim is to establish an independent multipurpose centre that will provide emergency response services, train regulators, and conduct accident analyses.

BACKGROUND: The Governments of the Islamic Republic of Iran and the Russian Federation have signed a bilateral agreement on the peaceful uses of atomic energy. As a follow up, the Atomic Energy Organization of Iran (AEOI) and the Ministry of Atomic Energy (MINATOM) of the Russian Federation have reached an agreement for completion of the Bushehr NPP Unit 1 with a WWER-1000 type reactor. This project was originally based on a KWU (German) design but was discontinued after partial completion. The decision to resume the Bushehr project with a new design has placed a heavy responsibility on the Nuclear Safety Department (NSD) of AEOI. NSD is the national regulatory body of Iran. This problem has arisen particularly in view of the complexities involved in the change-over from one type of design (KWU) to an entirely different design (WWER-1000). The construction of the NPP is starting, hence the urgency for national regulatory involvement. The IAEA mission in October 1995 endorsed the urgent need and recommended technical assistance in this area. The project will address the following aspects: (i) Development of well-qualified and trained personnel to carry out regulatory duties during various stages of NPP design, construction, commissioning and operation. (ii) Issues related to licensing NPPs, including technical, legislative and organizational aspects. (iii) Methodology for evaluating regulatory documents pertaining to plant design safety, environmental impact assessment, probabilistic safety assessment (PSA), etc. (iv) Framing rules, regulations, guidelines and specifying codes and standards for the completion of Bushehr NPP, taking into account the change-over from KWU design to WWER. The project has a focused objective, the accomplishment of which, including the various intermediate steps connected with establishing well-structured regulatory framework, licensing, training, QA and documentation, could serve as a good performance indicator. Also, the extent of national involvement will ensure the project's strong and sustainable impact.

PROJECT PLAN: The regulatory process is unusually complex as a result of the change-over of the design concept in the Bushehr NPP from the original KWU type to the WWER-1000 type reactor. The project has to be planned for a period of four years. During the period 1997-98, focus will be on developing legislation and evolving a sound role and structure for the nuclear regulatory body. This will be achieved through expert services, scientific visits, fellowships and training to regulatory staff. During this period specific needs will be identified and the tasks will be prioritized. The workshops/training courses will address familiarization with IAEA safety series documents on regulatory infrastructure licensing related to this project. According to identified needs and progress, the period 1999-2000 will focus on expert advice on site-specific regulatory requirements including inspections, quality assurance, safety assessment and licensing at various stages of the project implementation.

NATIONAL COMMITMENT: The Nuclear Safety Department (NSD) of AEOI as the national regulatory body will assign available professional as well as supporting staff for this project. Any additional staff requirement will be met through training. In addition to NSD, the Radiation Protection Department and the Nuclear Standards and Environmental Protection Department will contribute to the project in the areas of their jurisdiction. Since the Bushehr NPP is a committed cost intensive project, necessary funds and other infrastructural support for strengthening capability on regulatory aspects will be provided by the Government.

AGENCY INPUT: Agency will provide experts to advise, assist and provide training in the following areas: (i) Identifying safety features and evaluating them in the context of WWER-1000 design for formulating the regulatory requirements. (ii) Formulating a safety policy and associated licensing and supervisory procedures for completion of Bushehr NPP. (iii) Upgrading national codes and standards to international levels. (iv) Training regulatory staff. (v) Formulating procedures for issuing of licenses. (vi) Evaluating submitted regulatory documents. (vii) Establishing a national regulatory inspectorate to carry out inspection of the activities during design, construction, commissioning and operation of Bushehr NPP.

PROJECT IMPACT: In the short term, the main impact will be on the national regulatory body to discharge its statutory responsibilities for the construction of the Bushehr NPP to regulatory standards conducive to safe operation. However, in a wider context, the knowledge and inputs provided by the Agency will considerably enhance national capability to deal with regulatory aspects of the entire nuclear power programme, which at present covers, in addition to Bushehr NPP, two PWR units of 300 MW(e) from China and two WWER-400 units from the Russian Federation. A competent national regulatory body is a source of strength for ensuring safety and public confidence in the promotion of nuclear energy.