



International Atomic Energy Agency

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TECHNICAL CO-OPERATION

PROJECT SCHEDULES FOR 1988

33. ISLAMIC REPUBLIC OF IRAN

1. CALIBRATION FACILITIES FOR DOSIMETRY (IRA/1/007) E301

YEAR	Experts		Equipment		Fellowships		Group Training		Subcontracts		Total CC\$	Total NCC\$	TOTAL
	m/m	CC\$	CC\$	NCC\$	m/m	CC\$	CC\$	NCC\$	CC\$	NCC\$			
1988	1	7,200	10,000	0	0	0	0	0	0	0	17,200	0	17,200
1989	1	7,500	10,000	0	0	0	0	0	0	0	17,500	0	17,500
Total	2	14,700	20,000	0	0	0	0	0	0	0	34,700	0	34,700

The Radiation Protection Department of the Atomic Energy Organization of Iran (AEOI) plans to establish a secondary standards dosimetry laboratory that will assume responsibility for the calibration of all sources of ionizing radiation in the country. In this connection, an existing laboratory must be upgraded and calibration procedures improved.

Under this multi-year project first approved in 1987, the Agency is to provide short-term advisory services and equipment, including an X-ray tube, a calibration cart and a secondary standard dosimeter for radiation protection.

AEOI is expected to make available a suitable irradiation laboratory and to conduct an inventory of the existing equipment and to assess its condition.

It is expected that the project will facilitate the establishment of an effective national dosimetry laboratory that could be used for metrology for the irradiation plant, radiotherapy and radiation protection.

2. RADIOISOTOPE PRODUCTION (IRA/2/004) G401

YEAR	Experts		Equipment		Fellowships		Group Training		Subcontracts		Total CC\$	Total NCC\$	GRAND TOTAL
	m/m	CC\$	CC\$	NCC\$	m/m	CC\$	CC\$	NCC\$	CC\$	NCC\$			
1988	5	36,000	80,000	100,000	14	31,500	0	0	0	0	147,500	100,000	247,500
1989	3	22,500	80,000	100,000	9	21,600	0	0	0	0	124,100	100,000	224,100
1990	4	31,800	30,000	15,000	5	12,750	0	0	0	0	74,550	15,000	89,550
Total	12	90,300	190,000	215,000	28	65,850	0	0	0	0	346,150	215,000	561,150

The Atomic Energy Organization of Iran (AEOI) intends to set up a laboratory to enable the production of radiopharmaceuticals. An expert mission discussed the scope of the project with national authorities and prepared a work plan. The project has three main objectives: (i) the construction of hot cells and equipment for a generator line for the production of 80 molybdenum-99 generators per week; (ii) the production of radioimmunoassay kits for thyroid hormones; and (iii) the production of technetium-99m kits.

The Agency, over the period 1988-90, is to provide the equipment, including a multi-channel analyser, a hot cell manipulator, a lead glass window, in-cell equipment for iodine-151 production, a remote-control dispensing device, a freeze dryer, quality control instruments for radioimmunoassay kits, and a dose calibrator, together with expert services and fellowship training.

The AEOI will make suitable laboratories available and initiate the production of radioisotopes as soon as fuel needed for the operation of the research reactor has been obtained.

It is expected that, as a result of this project, AEOI will be able to meet the local demand for radiopharmaceuticals and radioimmunoassay kits.

5. URANIUM EXPLORATION (IRA/5/008) B105

YEAR	Experts		Equipment		Fellowships		Group Training	Subcontracts		Total	Total	GRAND
	m/m	CC\$	CC\$	NCC\$	m/m	CC\$		CC\$	NCC\$			
1988		21,600	40,000	0	20	45,000		0		106,600		106,600

The Atomic Energy Organization of Iran (AEOI) wishes to assess geophysical data related to uranium exploration in the country and to review on-going activities in the area of uranium processing. An Agency-sponsored fact-finding mission was recently carried out with a view to outlining a work programme for the future.

In line with the recommendations of this mission, the Agency has been requested to provide equipment and expert services in connection with the review of exploration activities, the interpretation of aerial radiometric survey data and ore processing. Fellowship training for local staff in the handling of geophysical equipment is also envisaged.

It is expected that the project will strengthen AEOI's capability for uranium exploration and processing.

4G30 CORE CONVERSION OF RESEARCH REACTOR (IRA/4/017)

YEAR	Experts		Equipment		Fellowships		Group Training	Subcontracts		Total	Total	GRAND
	m/m	CC\$	CC\$	NCC\$	m/m	CC\$		CC\$	NCC\$			
1988	2	14,400	0	0	6	13,500		0	0	27,900	0	27,900

The Reactor Division of the Nuclear Research Centre, Teheran, intends to convert the MTR-type fuel of its research reactor from high- to low-enriched uranium. In this connection, the fuel has to be specified and a new safety analysis report (SAR) prepared. The Reactor Division also wishes to upgrade the reactor's instrumentation.

For 1988, the Agency is to provide the services of an expert who will assist local staff in project planning and in drawing up a work plan for the SAR. Assistance in the preparation and review of the SAR is also envisaged, as is fellowship training. The equipment needed for the project will be specified once the project has been approved.

It is expected that the project, after the contract for fuel supply is signed, will facilitate the conversion of the reactor from high-enriched to low-enriched fuel and enhance its performance and safety.

5. NUCLEAR TECHNIQUES IN WHEAT PRODUCTION (IRA/5/008) D199

YEAR	Experts		Equipment		Fellowships		Group Training	Subcontracts		Total	Total	GRAND
	m/m	CC\$	CC\$	NCC\$	m/m	CC\$		CC\$	NCC\$			
1988	2	14,400	20,000	10,000	6	13,500	0	0	0	47,900	10,000	57,900
1989	2	15,000	30,000	20,000	0	0	0	0	0	45,000	20,000	65,000
1990	0	0	10,000	10,000	0	0	0	0	0	10,000	10,000	20,000
Total	4	29,400	60,000	40,000	6	13,500	0	0	0	102,900	40,000	142,900

The Department for the Application of Isotopes in Agriculture of the Nuclear Research Centre, Teheran, intends to undertake systematic isotope-aided research aimed at obtaining hardier wheat varieties with higher yield and increasing efficiency in the use of fertilizers and irrigation water.

As the progress of the project will depend to a great extent on the

work plan, the Agency has provided expert services in connection with the formulation of a detailed programme that **Will** include co-operation with the country's nuclear agricultural research institutions and the Ministry of Agriculture. As soon as this has been established, the Agency **will** provide expert services in plant breeding, soil plant fertility, soil physics and irrigation and plant physiology. The supply of equipment, including a photomicroscope, a flame photometer, a beta counter and a liquid scintillation counter, is also foreseen, as is fellowship training for local staff.

It is expected that the project **will** lead to the development of higher yielding wheat varieties and promote the more efficient use of fertilizers and irrigation water in the country's main agricultural areas.