

Technical Working Group Research Reactors

Support of Technical Cooperation for the Safe Utilization and Development of Research Reactors

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IAEA, Vienna



IAEA

International Atomic Energy Agency

The main support of TC to Research Reactors has been on the following areas :

- **Safety improvement**
- **Fuel conversion**
- **Upgrading and refurbishment**
- **Utilization**
- **Fuel development, storage and transportation**
- **Development of new reactors**

LIB/4/009 Enhancement of the Safety System of Tajoura Research Reactor and Critical Facility (2003)

Country Involved : Libyan Arab Jamahiriya

Objectives: To enhance the safety system of Tajoura research reactor by replacing the old control and safety system with a new one, which will be easier to operate and maintain; and to produce a safety analysis report for the proposed change.

Budget - TCF:	\$278,240
Government Cost Sharing:	\$1,535,558
Total:	\$1,813,798

BRA/4/059 Modernizing and Refurbishing the IEA-R1 Research Reactor to Secure Safe and Sustainable Operation and Produce Radioisotopes for Medical Applications (2005)

Country Involved : Brazil

Objectives: To increase the use of radiopharmaceuticals for nuclear medicine in the country, particularly primary radioisotopes such as molybdenum-99 and iodine-131 produced by the IPEN radiopharmaceutical centre using the IEA-R1 reactor.

Budget - TCF : \$312,685

RAF/4/022 Enhancing Research Reactor Utilization and Safety (AFRA) (2009)

Countries Involved : Algeria, Benin, Democratic Rep. of the Congo, Egypt, Ghana, Kenya, Libyan Arab Jamahiriya, Madagascar, Morocco, Niger, Nigeria, South Africa, Sudan, Tunisia, Zambia

Objectives: To optimize effective utilization and safety of research reactors to support the socio-economic development in AFRA Member States.

Budget - TCF : \$1,250,250

RER/4/032 Enhancing the Sustainability of RRs and Their Safe Operation Through Regional Cooperation, Networking and Coalitions (2009)

Countries Involved : Czech Republic, Kazakhstan, Portugal, Poland, Romania, Ukraine

Objectives: To enhance the utilization of research reactor facilities through improved regional cooperation and development of coalitions and partnerships between reactors and stakeholders including the private sector.

Budget - TCF : \$528,595

RER/4/028 Repatriation, Management and Disposition of Fresh and/or Spent Nuclear Fuel from RRs (2005)

Countries Involved: Belarus, Chile, Czech Republic, Dem. Rep. of Congo, Germany, Jamaica, Kazakhstan, Latvia, Libyan Arab Jamahiriya, Mexico, Morocco, Nigeria, Poland, Portugal, Romania, Russian Federation, Serbia, Ukraine, Uzbekistan, Vietnam,

Objectives:

- To assist MS with research reactors to repatriate, manage or dispose of their fuel;
- To support the **Tripartite (IAEA-US-Russian Federation) Initiative** known as the Russian Research Reactor Fuel Return (RRRFR) programme; and
- To support the **Global Threat Reduction Initiative (GTRI)** by facilitating the return of highly enriched uranium (HEU), or spent low-enriched uranium (LEU) to the country of origin.

Budget - TCF:	\$1,101,494
United States of America:	\$7,948,750
Government Cost Sharing:	\$898,498
Government Cost Sharing:	\$ 1,694
Total:	\$9,950,436

RAS/4/030 Developing a Regional Nuclear Training Centre for Capacity Building and Research (2009)

Countries Involved : United Arab Emirates, Kuwait, Qatar, Saudi Arabia and as observers / participants - **non MS (Bahrain, Oman)**

Objectives: To establish and operate a Regional Nuclear Centre for Capacity Building, Training and Research in the Gulf Cooperation Council (GCC) countries including a new research reactor and an accelerator as main facilities;

Budget - TCF : \$51,825

AZB/4/002 Conducting a Feasibility Study for Planning and Establishing a Research Reactor (2009)

Country Involved : Azerbaijan

Objectives: To provide a feasibility study for a new research reactor installation and to develop technical and safety infrastructures for its construction and operation.

Budget - TCF : \$270, 870 (not funded yet)

Concluded Projects related to	Regional Projects Concluded on		National Projects Concluded on	
	1999 - 2007	2008	1999 - 2007	2008-09
Improving Safety			1	
Fuel Conversion			3	1
Upgrading & Refurbshiment			4	
Improving Utilization	3	1	3	1
Fuel Storage	1			2
Fuel removal			2	
Fuel Develop.			1	1
Dev. of New reactors				1
Human Res. for New Reactors				
	Total = 5 USD 2,445,440		Total = 20 USD 8,049,063	
Ongoing Projects related to	Regional Projects Started on		National Projects Started on	
	1999 - 2007	2009	1999 - 2007	2009
Improving Safety	1		8	3
Fuel Conversion			3	
Upgrading & Refurbshiment			5	3
Improving Utilization	2	3	7	1
Fuel Storage	2		1	
Fuel removal	1	2	2	
Fuel Develop.			3	
Dev. of New reactors		1		3
Human Res. for New Reactors			1	
	Total = 12 USD 19,598,362		Total = 40 USD 25,702,587	

Concluded Projects related to		Regional Projects Concluded on		National Projects Concluded on	
		1999 - 2007	2008	1999 - 2007	2008-09
		Africa	592,887 / 2,850,368	1	
ASIA	710,824 / 735,731	2	1	2	1
Europe	/ 3,633,846			5	4
Latin America	1,141,729 / 829,118	1		2	
		Total = 5 USD 2,445,440		Total = 20 USD 8,049,063	

Ongoing Projects related to		Regional Projects Started on		National Projects Started on	
		1999 - 2007	2009	1999 - 2007	2009
		Africa	1,817,036 / 4,456,848	1	1
ASIA	51,825 / 2,685,957		1	6	3
Europe	15,768,498 / 16,196,597	3	2	9	3
Latin America	1,961,003 / 2,363,185	2	2	7	2
		Total = 12 USD 19,598,362		Total = 40 USD 25,702,587	

Thank You

For your attention