

# Radioactive Waste Management in Iraq

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Radioactivity  
IRAQ

## Introduction

There are large quantities of untreated radioactive waste in Iraq, needs for radioactive waste management system and to be ruled by well defined policies and strategies. The policy of radioactive waste management in Iraq edited by Ministry of Science and Technology (MoST) with the consultancy of the IAEA, followed by the strategy which was drafted by MoST and will be detailed and completed by Radioactive Waste Treatment and Management Directorate (RWTMD) in MoST and both Radiation Protection Centre (RPC) in the Ministry of Environment and the Iraqi Radioactive Sources Regulatory Authority (IRSRA) as regulatory bodies.

# International Cooperation

IAEA

DOS (USA)

Texas Tech University USA

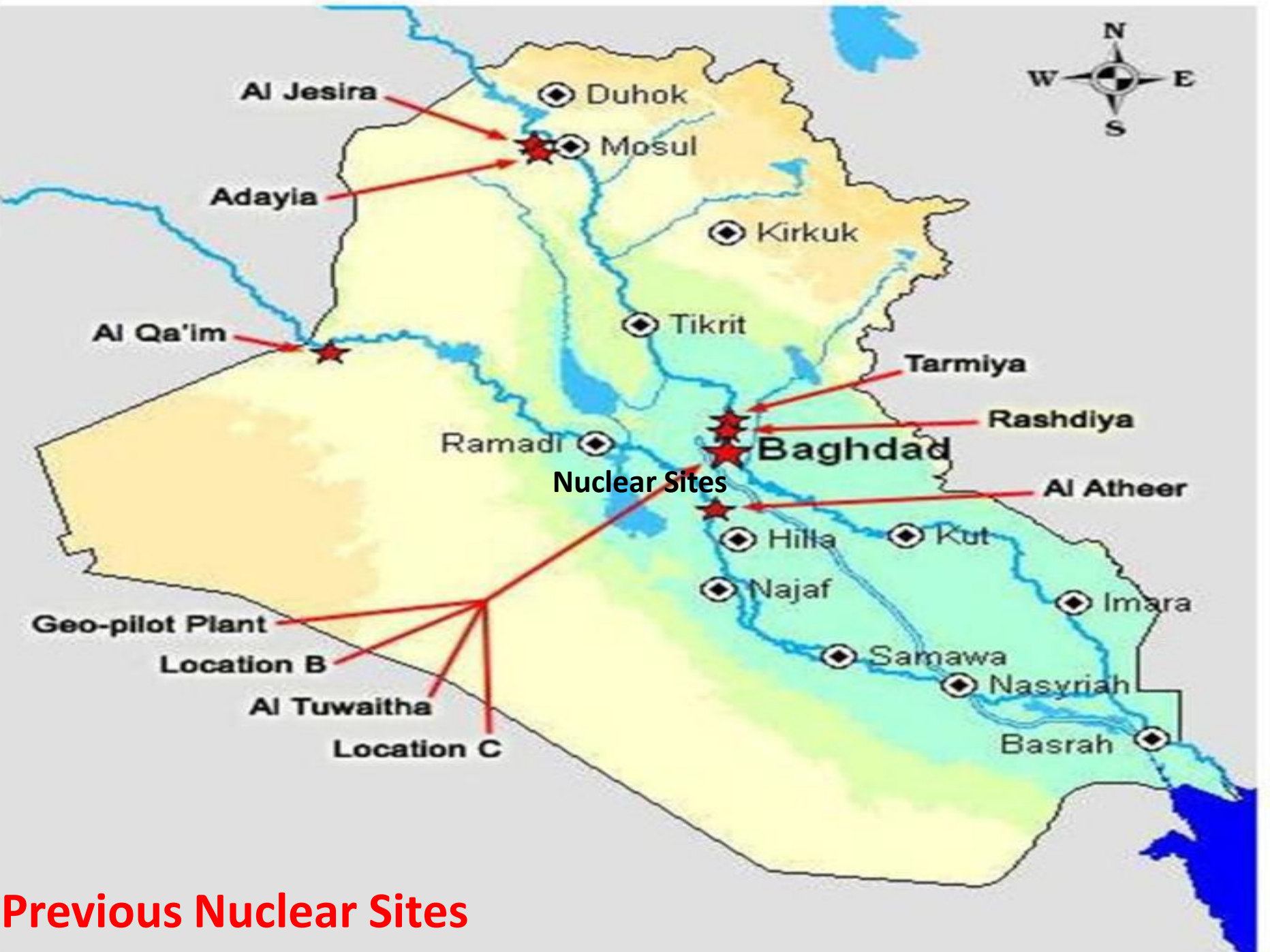
France

Italy

Australia

# **Destroyed or Contaminated Nuclear Sites**

- Al-Tuwaitha Nuclear Research Center  
Research reactors, hot cells, waste storage areas,  
waste “cemetery” and more**
- Al-Qaim (Fertilizer plant and uranium extraction)**
- Adayia Site (Waste storage)**
- Tarmiya Site (Enrichment plant)**
- Al-Atheer Site (Uranium metal facility)**
- Rashdiya Site (Centrifuge facility)**



**Previous Nuclear Sites**

# Quantities of Radioactive Waste

- 1050 tons of solid radioactive waste**
- 350 m<sup>3</sup> liquid radioactive waste**
- 950 Disused Sealed Radioactive Sources (DSRS)**
- 150 tons of Naturally Occurring Radioactive Materials (NORM)**
- 46 contaminated tanks and military vehicles**
- 10 km<sup>2</sup> of contaminated land**

# **Sources of Radioactive Waste**

- Legacy radioactive wastes before 1991 (Events)**
- Anticipated quantities from decommissioning of destroyed nuclear sites and facilities.**
- Contaminated military tanks of 1991 and 2003 events.**
- Hospitals, universities, industries (NORM), etc.**
- DSRS**



# Radioactive Waste Storage-RW (Several types)









Military Tank (Contaminated With Depleted Uranium)-DU





**DNRR**









Russian cemetery station





**DSRS**



# **Resources**

## **1-Storage Of Radioactive Waste**

### **Available facilities**

#### **2- Old Russian Silo:**

-Vertical holes (85) (Fill)

-Two large vessels (80 cm) for liquid waste :  
one of them cracked and filled with solid  
waste, the other one is naturally dried.

**3-The Monolith empty (not used).**

**4-The bunker (building 39) : Filled, not  
organized ; categorized or classified.**



*Radioactive Waste Management Complex*

**Radioactive Waste  
Treatment Station  
RWTS**

**Radioactive waste  
Russian Silo**

Proposed site for new  
interim storage bunker



**Monolith**

**Radioactive  
Waste Storage  
Bunker**

2005-6-6





# MONOLITH



The monolith is a reinforced concrete structure of (36.2m long, 10.5m wide and 6.1 m high) with 80 wells of 400 mm diameter and 4m height. The upper face of the monolith is 1.25 reinforced biological concrete slab (ric). Each well can take 7-8 st bins for decay with a dose rate 2-1000 rem/hr. The plugs of the wells are 1.25(ric). Special drainage system for the wells is available.

RWTS





## News (MAY 2015)

The Ministry of Environment, signs a cooperation agreement with the European Union to support and finance projects of the ministry in dealing with nuclear waste and dismantling of nuclear facilities funded by the European Union, and while welcomed any similar support from countries of the world, the EU expressed its readiness to provide full support and rehabilitation of Iraqi capabilities in this area .

The Minister of Environment during a joint press conference with EU Ambassador to the EU Jana Habascova on the sidelines of the signing of a cooperation agreement to address the nuclear waste and the dismantling of nuclear facilities, that (signing of this agreement comes to support Iraq in order to regulate radioactive waste management and remediation of contaminated sites), indicating that the (European Union will fund this program is estimated at a cost of up to 1.5 million euros within the nuclear peace document for a period of 96 months).

The minister, welcomed any similar support from countries of the world to deal with remnants of war in Iraq, pointing out that the ministry opened early radiation, which represents a significant scientific step for Iraq Center. The Ambassador of the European Union Jana Habascova, that agreement comes to support Iraq in nuclear materials processing, expressing readiness of the EU to fully support the rehabilitation of Iraq and the inspection capabilities and sites that contain radioactive materials.

Habascova, that the prevalence of cancer in the provinces of southern Iraq, especially Basra is a result of the legacy of the wars of radioactive materials, certain work to address these areas and to address those affected by the radiation inside Iraq and the development of the Iraqi side in this aspect.





**Future Expectations of Iraqi Interim Storage Radioactive Waste**



THANK YOU FOR YOUR  
ATTENTION

QUASTIONS







# Baghdad

