

Sandia National Laboratories Support of the Iraq Nuclear Facility Dismantlement and Disposal Project (NDs Project)

John R. Cochran
jrcochr@sandia.gov

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Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company,
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In a Sentence

Providing training, consultation & limited equipment to the Government of Iraq (GoI), so the GoI can cleanup its former nuclear complex and safely dispose of the radioactive wastes



Program Background

- Sandia supporting U.S. Dept of State's Iraq NDs Program since 2006
- Iraq ND's Program is international program providing training, consultation & limited equipment to the Gol, so Gol can cleanup its former nuclear complex and safely dispose the radioactive wastes
- Focused on Al Tuwaitha Nuclear Complex near Baghdad
- 4th year of possible 7 year project, with a clear endpoint



Participants in Iraq NDs Program

- International Atomic Energy Agency
- U.S. Dept of State
- U.S. Nuclear Regulatory Commission
- U.S. Environmental Protection Agency
- Sandia National Laboratories and Texas Tech University
- Other countries involved: France, Italy, Ukraine



Nuclear Complex at Al Tuwaitha

- **1 km² nuclear complex**
- **Two research reactors (Russian & French)**
- **Fuel fabrication facility**
- **Radiochemistry Building**
- **Metallurgy Facility**
- **Isotope Production Facility**
- **Waste Management Facilities**



Al Tuwaitha Covers > 1 km²



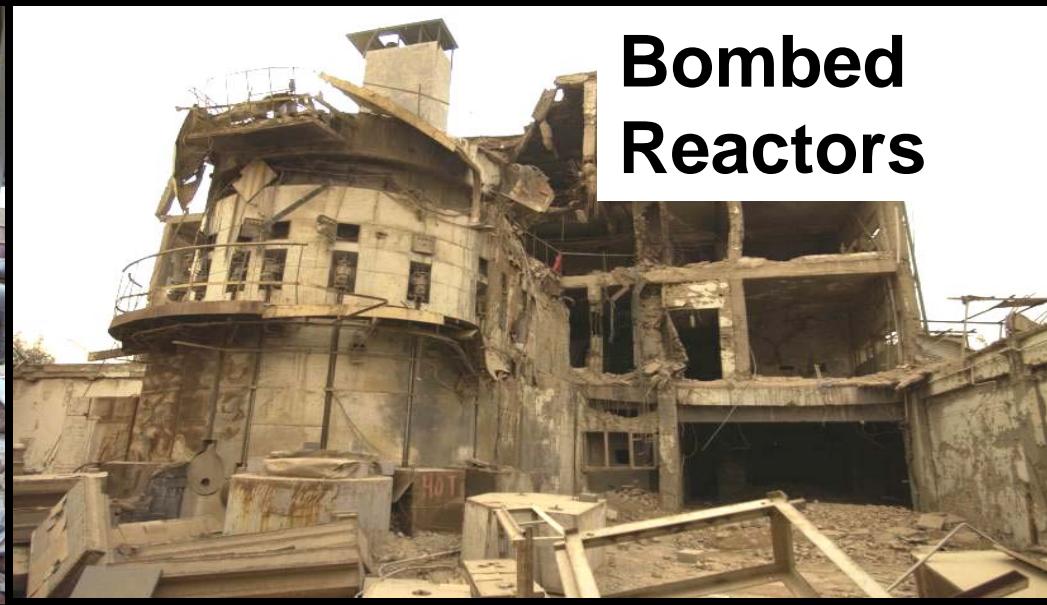


Decommissioning & Radioactive Waste Problems at Al Tuwaitha

Radioactive wastes



Bombed Reactors



Old disposal areas



Sealed Sources





Sandia's Uniqueness

- **Internationally-recognized experts in management & disposal of radioactive waste:**
 - Led science and Safety Assessment for world's only mined geologic repository - WIPP
 - Conducted the Safety Assessment of the only U.S. intermediate-depth disposal facility - the Greater Confinement Disposal (GCD) boreholes
 - Lead lab for assessment of Yucca Mountain Program as disposal site
 - For 7+ years, Sandia has assisted IAEA in development of borehole disposal system
- **Sandia has breadth and experience necessary to successful support the Iraq NDs Program:**
 - Environmental Restoration Program > 20 years
 - Member of the DOE's Radiological Assistance Program
 - Developed & taught broad range of rad safety training classes



2010 Workscope

- Draft Decommissioning Plan all Decommissioning in Iraq
- Help Setup Ground Water Monitoring Program with
- Supply Groundwater Sampling Equipment & training
- Draft Project Plan for Monitoring/Maintaining Underground Tanks containing Liquid Rad. Waste
- Waste Management Training Program at SNL
- Help Setup Radioanalytical Laboratory in Iraq (Texas Tech)
- Training Human Health Assessments (Texas Tech)



IAEA Planning Meeting





Training at Sandia's Mixed & Radioactive Waste Management Facility





Building Relationships





2011 Workscope

- Help setup program for near-surface disposal facility for Iraq's radioactive wastes
- Establish “planning basis” for all decommissioning and rad waste management
- Ongoing support in decommissioning planning and groundwater monitoring
- Setup Databases and servers to archive decommissioning data (Texas Tech)
- Help establish educational programs in Iraqi universities in sciences related to Iraq NDs Program scope (Texas Tech)



Success Story

First Field Work June 2009



LAMA Before



LAMA During



LAMA After Stages 1 & 2



Closing

Modest project that is having a significant effect in Iraq