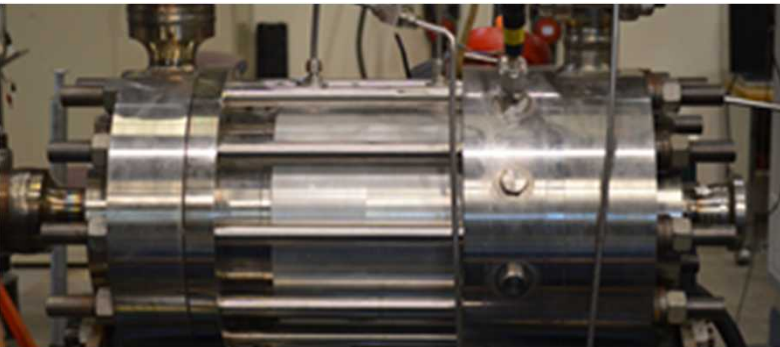


Exceptional service in the national interest



Deep Borehole Field Test

Robert J. MacKinnon

Manager, Applied Systems Analysis and Research

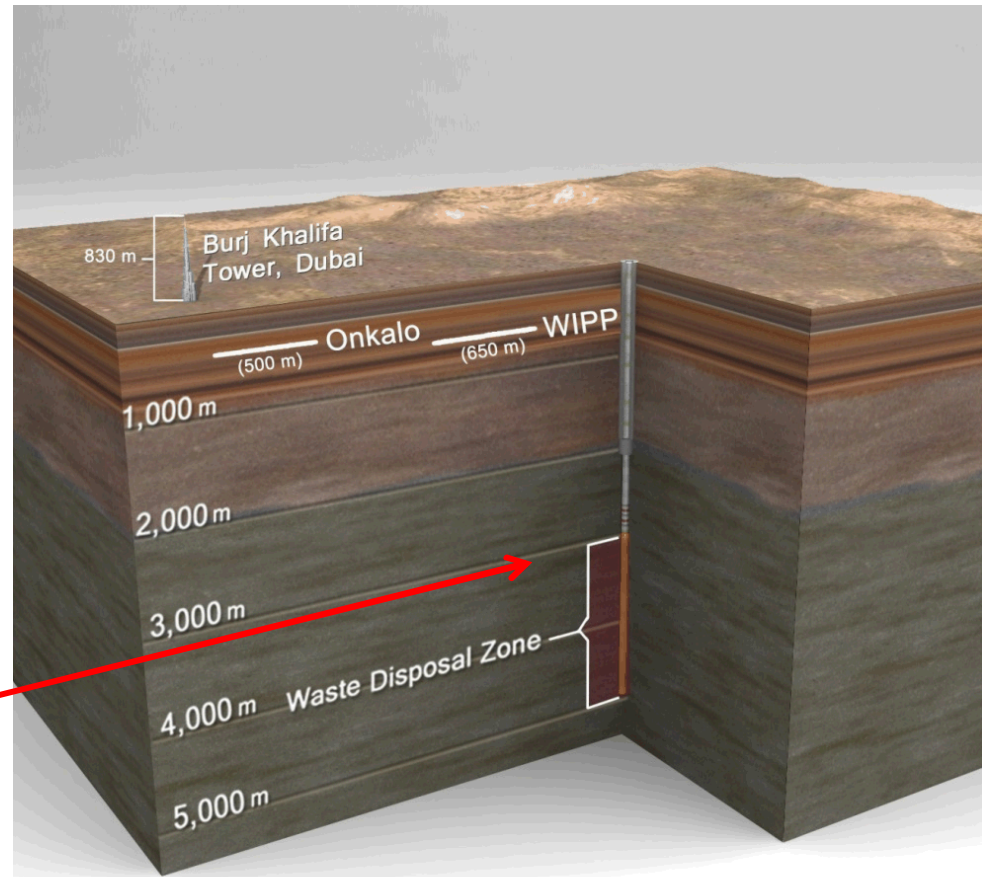
Disposal Field Test: Outline

- **Deep Borehole Disposal Concept**
- **Objectives of the Deep Borehole Field Test (DBFT)**
- **Elements and Organization of the Field Test**
- **DOE Procurement of Site and Contracting Services and Status**
- **Schedule and Key Milestones**
- **DBFT Estimated Budget**

Deep Borehole Disposal Concept

- **5,000 m deep borehole in crystalline basement rock, well below fresh groundwater resources**
 - Waste canisters in bottom 2,000 m
 - Seals in upper 3,000 m

Potential for Robust Isolation

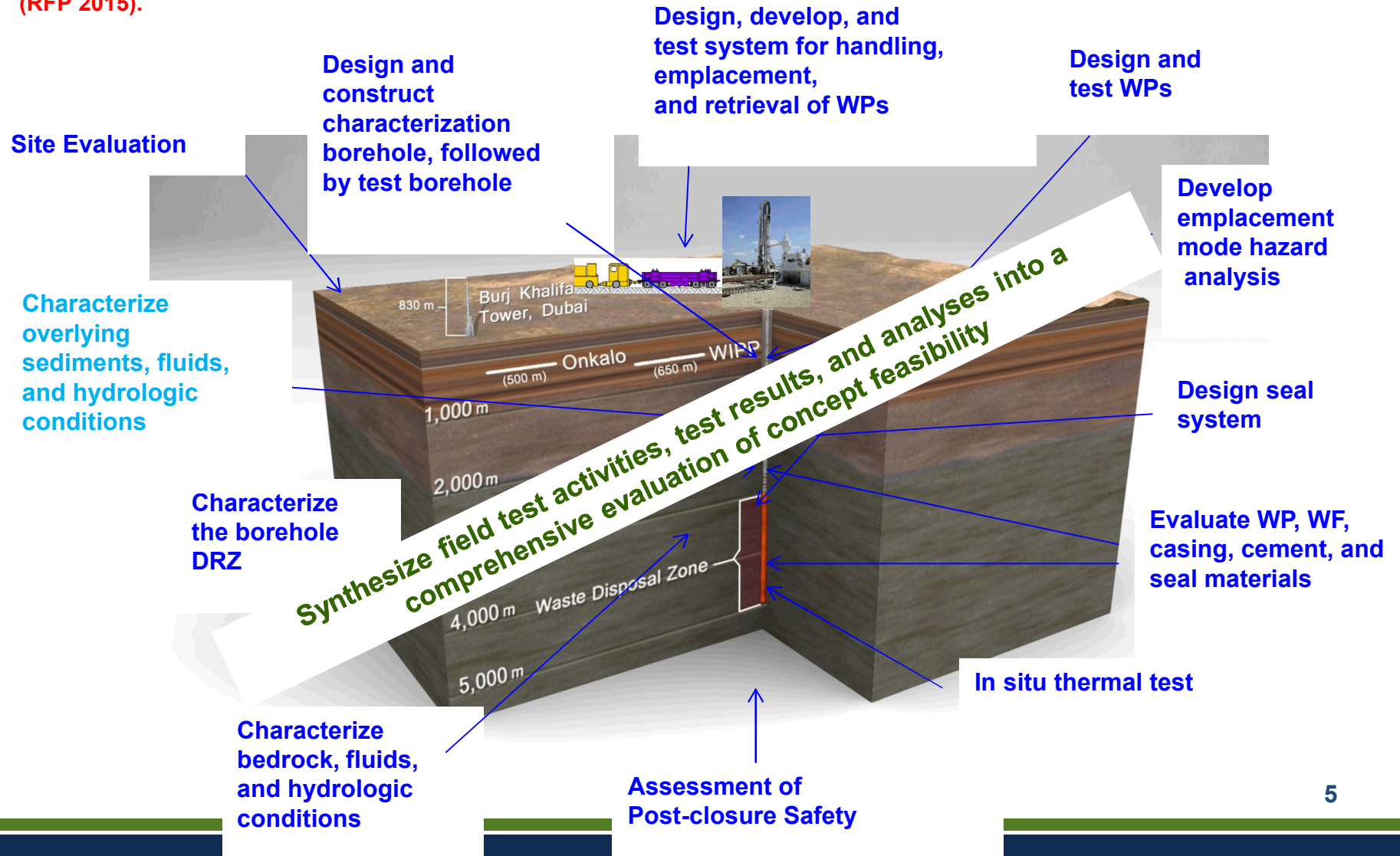


Why Deep Borehole Disposal?

- **Potential for robust isolation**
- **Gives DOE the flexibility to consider options for disposal of smaller waste forms in deep boreholes (DOE 2014a)**
 - **Potentially earlier disposal of some wastes than might be possible in a mined repository**
 - **Reduce costs associated with projected treatments of some wastes**

Objectives of the Deep Borehole Field Test

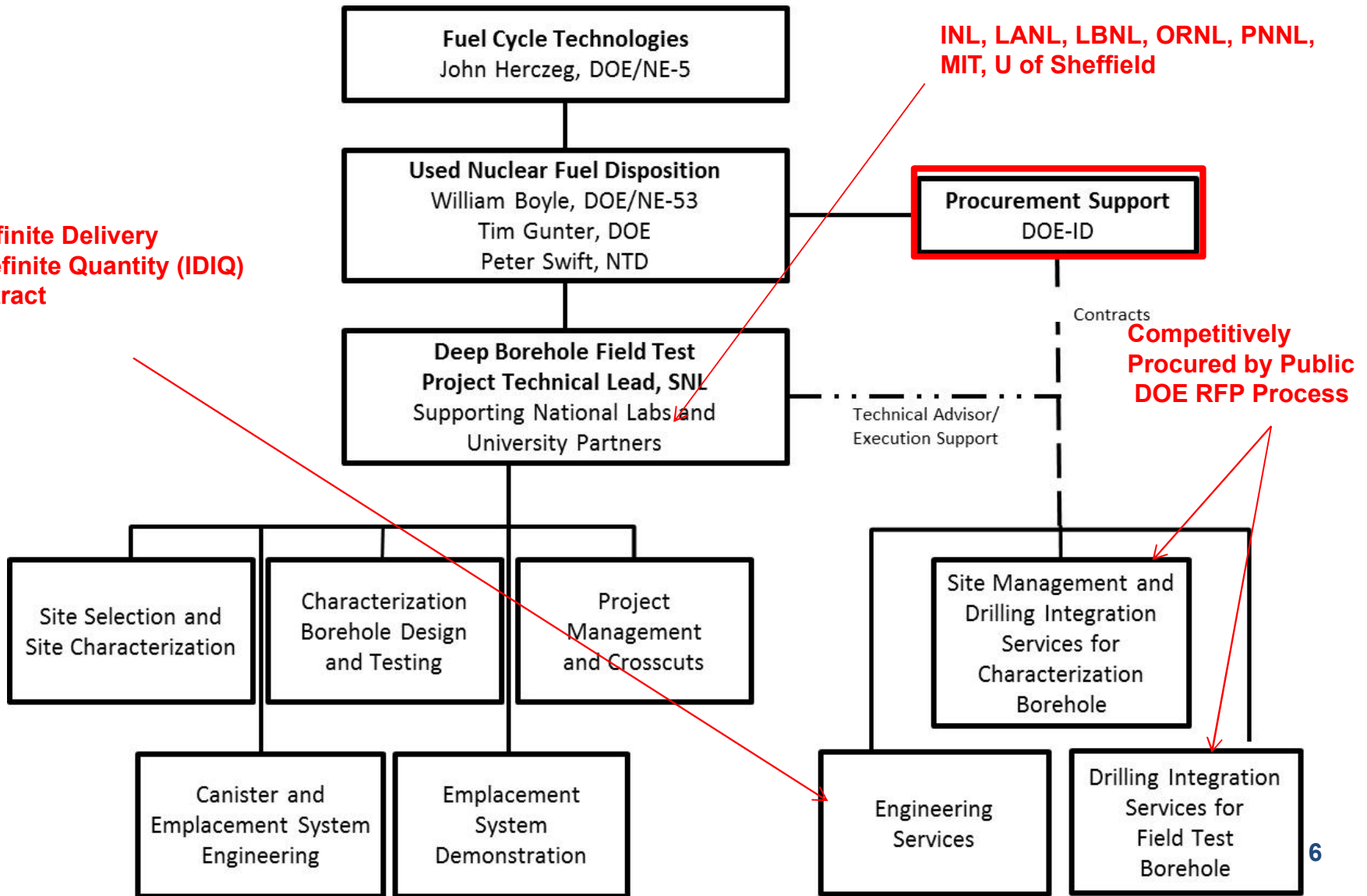
In no case will the US Government place or otherwise have nuclear material, waste, or other waste disposal material on the property (RFP 2015).



DBFT Project Organization

DOE
Indefinite Delivery
/Indefinite Quantity (IDIQ)
Contract

INL, LANL, LBNL, ORNL, PNNL,
MIT, U of Sheffield



Competitively
Procured by Public
DOE RFP Process

Deep Borehole Field Test Milestone Schedule

	FY15	FY16	FY17	FY18	FY19
Site Management and Drilling Integration Services (SM&D) Draft RFP – Issued	◆ 04/07/15				
Field Test Engineering Services Contract – Awarded	◆ 06/25/15				
SM&D Final RFP – Issued	◆ 07/09/15				
SM&D RFP Proposals – Submitted	◆ 09/23/15				
SM&D Contract – Awarded		◆ 01/29/16			
Field Test Borehole Services RFP – Issued		◆ 08/01/16			
Characterization Borehole Drilling – Started		◆ 09/01/16			
Field Test Borehole Services Proposals – Submitted		◆ 09/30/16			
Characterization Borehole – Completed			◆ 02/27/17		
Field Test Borehole Services Contracted – Awarded			◆ 03/01/17		
Field Test Borehole Drilling – Started			◆ 09/07/17		
Field Test Borehole – Completed				◆ 03/08/18	
Field Test Emplacement Demonstration– Started				◆ 03/16/18	
Field Test Emplacement Demonstration– Completed				03/15/19	◆
Final Analyses and Concept Evaluation – Completed				09/30/19	◆

DBFT Estimated Project Budget

- ~ \$80M over 5-year duration (FY15-FY19)
 - FY15: ~ \$5M planning, procurements, R&D
 - FY16-FY18: ~\$20M, \$25M, \$25M per year, significant drilling and engineering costs
 - FY19: ~ \$5M Complete field testing, analyses and synthesis, and documentation