Logistics and Technical Challenges

Designing a High Containment Facility in the Middle East
International Cultures

- Language – Translation services: business vs local language translation
- Travel – not meet FAA standards. Internal airlines may Roads & Politics
- Government Agencies provide many services that are businesses in USA
- Varying layers of Bureaucracy – who to meet, who has authority to decide?
- Frequent Gov’t Personnel changes
- Importing products – duties, traditional methods not conducive to our customs
- Codes and Regulations – Permits
- Labor Intensive
International Cultures

• Eager to Learn & Improve
• Cultural – male/female
• Religion, Secular, Tribal
• Lab Protocols – biosafety methods
• Safety – construction methods
• Climate – hot/cold; wet/dry; seismic
• Construction techniques
• Equipment – modern/long term use
• International Recognition
Climate – Hot, Dry, Wind, Sand
Logistical Challenges

Location
- Support Infrastructure
  - Roads
  - Water
  - Electricity
  - Gas
- Design
  - Scope of Support
- Technical Challenges
  - Building Envelope
  - Wind, Heat, Sand
- International Recognition
  - Guidelines & Codes
Design – Scope (Functional Facility)

Design a High Containment Lab
  • CDC & National goals
Need Support Lab Space
  • BSL2, BSL3
  • Animal Facility
Need Support Facilities
  • Specimen Receiving/Loading
  • Waste Handling
  • Cafeteria, Staff areas
Need Infrastructure
  • Central Svcs – BMS, Security, IT, Sample distribution
  • Steam, Chilled Water
Need road access, elect, water
Existing Condition
Technical Challenges

“Ensure it meets International Standards”

Seal the Building

• Doors, Windows, Walls
• HVAC Supply/Exhaust

Location for Construction

• Manufactured System
• National products
• International products

• Develop designs while developing protocols
International Standards

“Ensure it meets International Standards”

Guidelines & Regs

• CAP
• BMBL
• International Building Code
• Users
  • Multiple nationalities
  • Workforce from North America, Europe, Asia
  • Short term involvement
• Develop designs while developing protocols
Questions