Herbert Hoover Dike (HHD), Florida
Major Rehabilitation Project

The Challenges and Opportunities of Managing a Large Program
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Presentation Agenda

- Herbert Hoover Dike Project Background
- Adaptive Project Management
- Parallel Activities
- Funding Challenges
Lake Okeechobee is 720 square-miles – twice the size of NYC

- Average water depth is 9 feet
- Water volume equal to 2.2 million Olympic-size pools
- Basin is 5,600 square-miles
- One foot of rain in the basin equates to a three to four-foot rise of the lake
- Lake can fill six times faster than water can be released
Purpose of the HHD Project

• Bring the Dike up to Dam Safety Requirements
Previously Observed Problems

Sinkholes

Heaves

Piping

Saturated Toe
Complex System

5 gated outlets
5 gated inlets
33 primary & secondary culverts
9 navigation locks
9 pump stations

No overflow capacity
Findings and Solutions

- 1990s Corps studies prompted by evidence of damage
- 2000 Congress approves Corps proposal for fix; analysis and design begins
- 2005 Corps starts construction
More Recent Developments

- Hurricane Katrina strikes in 2005
- Corps overhauls procedures for managing dams and levees (ongoing)
- Corps sponsors HHD repair evaluation with state and independent experts
- Consensus reached on a modified fix concept
Adaptive Project Management

- New Guidelines and Policies
- Dam Safety Guidance Evolution
- Risk Assessment DX Process
- Variations in Geology and Socio-economic Conditions
- Recent Weather Extremes
- Aging Dike Structure
- Varying Local Interests
- New Projects by Others (lock, quarry, equestrian park, River of Grass)
- New Team Members
Parallel Phases and Activities

- Major Rehabilitation Report and Supplemental Environmental Impact Statement
- Interim Risk Reduction
- Internal Communications and Reporting
- Piping Cut-off Wall Design
- Community Outreach and Involvement
- Landside Rehabilitation Design
- Existing Culvert Analysis and Rehabilitation
- Real Estate Acquisition Coordination
- Multiple On-going Construction Contracts
Landside Design Criteria

- Geotechnical engineering design is the initial criterion for analysis.
- Each design is ranked based on reliability, resiliency and redundancy.
- Other factors in the determining design solution:
  - Initial cost
  - Operations and maintenance
  - Community resources
  - Visual and human interest
  - Flora and fauna
  - Social factors
  - Land use
Environmental and Public Involvement Processes

- Public meeting during review of Environmental Impact Statement (EIS)
  - Design process description
  - Design alternatives
  - Recommended alternative
- Public comment is encouraged
- Final EIS and Record of Decision
Interim Risk Reduction Measures

- New lake regulation schedule
- Increased inspection frequency
- Emergency management
- Immediate actions

Tree removal and filling the landside ditch
Funding Challenges

- Double Annual Funding 2007 thru 2012
- Resources Stretched Thin as Funding Increases (labor, AE, Suppliers, Construction)
- Multiple Phases Competing for the Same Resources
- Competition for Dam Safety Funding With other Dams Throughout the USA
Program Manager’s Perspective

- **What works**
  - Competent staff and strong PM support
  - Accountability
  - Identification of resource needs
  - Culture of identifying problems AND solutions
  - Continuous and organized communication
  - A healthy budget

- **What we need to improve**
  - Communication
  - Garnering support from Corps-wide programs
  - Ability to resolve scarcity of resources
Questions?

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