Building Better Dam and Levee Safety Programs in the US Army Corps of Engineers

Briefing for American Council of Engineering Companies

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Outline

- Background
- Risk Management Center Development
- Dam Safety Modification Centers
- Discussion
Background

- In the Beginning, Safety Programs were Decentrally Led and Executed
- Initial Approach to Centrally Lead Programs was temporary and had a virtual organizational arrangement
- AAA Audit, DSAC I Peer Review Group, and National Technical Competency Team (AFC) all confirmed need for such Improved Program Delivery
Organizational Transition: Dam and Levee Safety

US Army Corps of Engineers Dam and Levee Safety Programs

Risk Management Center
Mapping, Modeling, & Consequence Center
Regional Risk Cadres

Decision & Safety Program Support

Decision Leader

Agency Dam Safety Modification Center of Expertise
Regional & Inter-Regional Production Centers
District Support & Construction Execution

Decision Execution
Why an RMC?

- Ad-hoc groups were unsustainable
- Proper management controls could not be instituted without centralized and consistent oversight
- The increasing national dam and levee safety workload demanded:
  - More objective and consistent decision making
  - More quality technical decision making
- Consistency in the program suffered due to lack of technical expertise and authority
- Over-Reliance on outside experts was then and is now costly
Centrally Led Safety Program
Benefits So Far

- Accelerated High Risk Projects – Pine Creek, East Branch, Addicks, and Barker
- Howard Hanson Dam ($500M+ modification now scoped at $50M with same risk reduction)
- Roush Dam ($100M+ modification now monitoring and investigating further)
- Herbert Hoover (re-tasked project to high risk items [culverts] from medium risk items [foundation])
- East Branch Dam ($280M modification – still trying to get cost savings)
- Salamonie and Nolin Dams (Changed from significant modifications to monitoring)
RMC Stand-up

- Director Started 18 August 2009
- ERR DX transferred in by 31 January 2010
- Other virtual assets transferred in by 31 July 2010
- Major Centers – Denver, CO, Pittsburgh, PA, and limited virtual
- Recruitment continues for a world-class center of dam and levee expertise
Risk Management Center

- Contracts
- RMC Staff
  - 47 Full time
- MMC Staff
  - ~50 Part Time
- Developmental Positions (District Resources)
  - Varies
- Ad-hoc District Forces
  - ~150 Part Time
Mission

- Lead infrastructure risk management development and technical analysis of dams and levees
- Support risk-informed decision-making for district commanders and DSO’s
- Support HQ prioritization and planning for risk reduction studies and activities
- Provide training
- Develop tools
- Develop expertise
- Support and Review DSMC Products
- Lead dam & levee safety risk assessments
- QA/QC for safety and risk products
- Technical review of PA/IE/DSM products
- QA/QC for Safety Program performance
- Focal point for policies and methods
- Manage ATR and IEPR for Dam Safety and Levee Safety
- Manage Wedge Projects and Monitor IRRM Progress
Major RMC Responsibilities

- Program Management for Centrally-led Activities in the C/G WEDGE and O&M Remaining Items
- Risk Assessment Facilitation and Review
- Review and Support for Dam and Levee Safety Activities
- Data Management
- Development and Technical Competency
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Decision Execution
DSMC Methodology

Agency Dam Safety Modification Center of Expertise

- Single Mandatory Center of Expertise that Oversees, Reviews & Supports All Dam Safety Modification Work in the Corps
- Selected from MSC Production Center Proposals based on Qualification & Selection Criteria
- Integral with a Production Center
- Production Centers and MCX will have core team co-located, with some virtual team members

Regional & Inter-Regional Production Centers
District Support & Construction Execution
DSMC Methodology

Agency Dam Safety Modification Center of Expertise

Regional & Inter-Regional Production Centers

District Support & Construction Execution

- Prepare All Dam Safety Modification Reports, Lead Designs, and Supports District Construction
- May Serve as Full Production Staff for Some Districts
- Selected from MSC Proposals based on Workload Analysis, Qualification & Selection Criteria
- Located at a District, Not more than One Per Division but Workload May Require an Inter-Regional or Other Viable Approach to Solution
- A Primary Role is to Sustain Technical Competency Including Staffing and/or Recruiting of DS Professionals
- Lead Engineer Role will be Assigned to an Individual at Production Center & and be the Centers Responsibility
DSMC Methodology

- District Engineering Support to Regional Centers, Assist with Designs, & Manage Construction as Determined by Regional Centers
- Works under direction of Regional Production Centers
- Maintains all Responsibility for Routine Dam Safety Program, Including DSO & DSPM
- PMBP process will be maintained; the District PM will be responsible for project execution and customer interface
Discussion