U.S. Army Corp of Engineers

PL 84-99 Levee Inspections and Levee Certification

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Rock Island District

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U.S. Army Corps of Engineers
Flood Damage Reduction Services

- Levee Rehabilitation and Inspection Program
- Flood Damage Reduction Project Construction
- Emergency Response
- Levee Certification
- Flood Risk Management and Coordination
- Flood Risk Communication
What is a levee?

- A man-made structure engineered to contain, control, or divert the flow of flood water.
Where are levees located?
Where are levees located?

- Most originally built to protect farmland
- With development, migrated to protecting homes
- 100,000 miles of levees nation-wide
- Most locally owned and many near large rivers
- 43% of U.S. population live in leveed counties
USACE PL 84-99 Program
Levee Inspection and Rehabilitation

- Annual and Periodic Levee Inspections
- Emergency Response and Flood Fight Support
- Levee Repair of Major Damages (> $15k)
- Non-structural Alternatives, Reducing risk
PL 84-99 Levee Program

- 110 Levee Systems in Rock Island Dist. Program
  - Federal Projects: 82
  - Non-Federal Projects: 28
PL 84-99 Levee Program

- Levee inspectors assess levee conditions annually to identify potential problems
  - Unwanted vegetation and debris
  - Encroachments
  - Slope stability
  - Erosion
PL 84-99 Levee Program

- Levee inspectors assess levee conditions annually to identify potential problems
  - Unwanted vegetation and debris
  - Encroachments
  - Slope stability
  - Erosion
  - Settlement
  - Seepage
  - Pump problems
  - Critters
2010 Levee Inspections

- Levees receive one of three ratings
  - Acceptable - Minimally Acceptable - Unacceptable

- 2010 Annual Levee Inspection results:
  - 19 Acceptable
  - 58 Minimally Acceptable
  - 15 Unacceptable

- 2010 Periodic Levee Inspection results:
  - 6 Minimally Acceptable
  - 3 Unacceptable
  - 9 Not yet rated
Levee System Status

- Acceptable
  - What does it mean?

- Minimally Acceptable
  - What does it mean?
Levee System Status

- Unacceptable
  - What does it mean?
  - How will this rating affect the sponsor?
Factors Affecting Rating Process

- Increasing Flood Damages
- Congress and USACE Focused on Reducing Risk
- Implementation of Levee Safety Program and Periodic Inspections
- Clearer Levee Inspection Guidance
- Less Flexibility in Rating Process
Future of Inspection Program

- Improved Tools
  - Levee Inspection Tool
  - National Levee Database

- Clarifying Inspection Guidance

- Improved Communication

- Focus on Reducing Risk
Levee Rehabilitation Status

- 2008 Flood Repairs - Rock Island District
  - 27 Levee System Repairs (of 110)

- Levee System Repairs by State
  - Iowa: 13
  - Illinois: 8
  - Missouri: 6

- Estimate $80 million expended when fully complete
USACE Perspectives on Levee Certification
Levee Evaluation, Certification, and Accreditation

• Terminology
• Historical perspective
• FEMA notes
• Corps notes
• Advantages of Accredited Levee
- **Inspection**
  - Routine annual and periodic
  - Accomplished to protect PL 84-99 interest
  - Not specific to level of protection

- **Evaluation**
  - Comprehensive and rigorous assessment
  - Can be the basis for completing certification

- **Certification**
  - Must be accomplished by either a registered professional engineer or a Federal agency with levee design and construction qualifications
  - Submittal package to FEMA for accreditation

- **Accreditation**
  - Inclusion of a certified levee on a FEMA flood insurance rate map
  - Affects flood insurance requirements and rates and floodplain regulations
History

- Map Modernization Program and Digital Flood Insurance Rate Maps (DFIRMs) - 2004
- Levee certification requirement
  - Procedure Memorandum 34 (issued in 2005)
- Provisionally Accredited Levee (PAL) agreement - 2006
  - 2 yrs to complete certification
  - 1 yr interim status report requirement
  - Timeframe between PAL agreement expiration and any de-accreditation varies
FEMA notes

- FEMA does not do levee certifications.
- FEMA accredits levees on its maps that have been certified by others.
- An accredited levee is one that FEMA recognizes on its Flood Insurance Rate Map (FIRM) as providing protection from the 1% or greater annual chance flood event.
- FEMA doesn’t decertify levees. FEMA de-accredits (i.e. removes) levees from its maps that are not certified.
- For more information go to FEMA web site at: http://www.fema.gov/plan/prevent/fhm/lv_state.shtm
Corps notes

- Corps is not funded to certify levees other than those it owns, operates, and maintains.
- Corps is funded to make available upon request any pertinent data it holds in support of levee evaluations/certifications by others (e.g. private sector A&E firms).
- Corps may perform certifications (evaluations) at the request of the non-Federal sponsor on a reimbursable basis.
Corps Levee Certification

- Corps requirements are consistent with FEMA’s 44 CFR 65.10
  - Corps certification includes updated methods and follows current Corps practices and requirements
- Corps will not issue a partial certification
  - System approach
- Corps certification has a maximum period of validity of 10 yrs
  - Review may be required based on changed conditions
- Corps certification requires risk & uncertainty analysis
  - Statistical methodology for determining freeboard requirements
- Emergency operation and flood warning plan required for Corps certification
Advantages of Accredited Levee

- Mandatory flood insurance requirements do not apply; lower cost, preferred risk policies are available - insurance is still highly recommended!

- Protected area is considered to be outside the 1% chance event (i.e. 100 yr) regulatory floodplain.

- Greater awareness of residual risk.
  
  ► Area designated on map as protected by levee
Questions?