

# 2008 NORTHWEST HYDRO OPERATORS REGIONAL FORUM STEVENSON, WASHINGTON

## FERC DAM SAFETY PROGRAM

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# FERC UPDATE

- Specific Questions
- Ongoing Projects and Initiatives



# Specific Question

## Emergency Action Plans

Emergency Action Plans -- (a) an update on digitizing maps and use of digital GIS files; what is FERC requiring; and (b) temporary EAPs, e.g., for construction. It appears that a general discussion of this would be helpful, including any recent changes or initiatives.



# EAP Chapter 6

1. Revised in October 2007
  
2. Chapter Includes New and Revised Sections on:
  - a. Schedules for EAP Submittals and Exercises
  - b. GIS Inundation Maps
  - c. Performing Exercises/EMA Coordination
  - d. Ensuring Effective EAPs



# Ensuring Effective EAPs

- EMAs Responsible for Notification and Evacuations
- Sometimes Have minimal time Between Dam Failure and When people are Impacted
- Licensees should Work With EMAs for a Way to Quickly Verify Emergencies and Warn People Before the Flood Wave Hits



# Ensuring Effective EAPs

This May Require Licensees to:

- a. Install Additional Instruments/Cameras to Verify Problem at Dam
- b. Help Notify People Close to Dam
- c. Provide Early Warning Systems
- d. Provide Handouts That EMAs Can Distribute to People within the Inundation Zone



# Annual Meetings with EMAs

1. Require Annual Meetings With Primary EMAs Whose Jurisdictions are Impacted From a Dam Failure
2. Main Goal is to Make Sure EMAs are Familiar With the Impacts From a Dam Failure and Understand the EAP
3. Positive Feedback From Licensees – Increases Understanding of Emergency Procedures and Builds Relationships
4. EMAs Typically Prefer Short/Focused One-to-One Meetings at Their Office



# Inundation Map Initiative

1. GIS Technology is Becoming State of Practice for Emergency Management Agencies (EMA)
2. Main Benefit – GIS is an effective and efficient tool for EMAs to carry out their evacuation responsibilities. This improves warning and evacuations during emergencies.





# Inundation Map Initiative

1. If EMAS Don't Have GIS – Check Back Next Year.
2. If EMAs Have GIS – Schedules Have Varied
  - Maps Already in GIS – End of 2008
  - Maps Not in GIS/Few Projects – End of 2009
  - Maps Not in GIS/Several Projects – Stagger



# Specific Question

## Seismic Design

What is the status of FERC's new seismic criteria?



## Chapter 13 – Evaluation of Earthquake Ground Motions (draft)

- Draft chapter is posted on the FERC website for comment <http://www.ferc.gov/industries/hydropower/safety/guidelines>
- Chapter reviews the information needed for estimating earthquake ground motions and summarizes the most relevant available procedures for estimating these parameters
- Reviews both the quasi-deterministic and probabilistic seismic hazard evaluation



## Chapter 13 – Evaluation of Earthquake Ground Motions (draft) (Continued)

- Developed in Coordination With FEMA, ICODS/NDSRB, Earthquake Guidelines Task Group (EGTG)
- Intent is to be a FEMA Guideline and FERC Engineering Guideline
- The Guideline is not Intended to Lower or Raise the Seismic Design Criteria of FERC Licensed Dams.
- A Deterministic Approach Will Always be Required



## Chapter 13 – Evaluation of Earthquake Ground Motions (draft) (Continued)

- Last Meeting of EGTG Held on March 7, 2008
- Currently Incorporating Comments From Meeting in Document
- On Target to Issue Final Draft 2008
- Considering PEER Review Before Issuing as a Final Guideline



# Specific Question

## Dam Safety Surveillance and Monitoring Plans

SMP/SMR Requirements, any clarifications  
anticipated



# Surveillance and Monitoring Plans

- Reflects Necessary I&M According PFMA and Part 12D
- Group of Owners, Consultants and FERC Developed a Standard Outline
- Final Guidance Issued and Posted on Website



# Surveillance and Monitoring Plans

## Reason for SMP Outline

- Design SMP to Address Potential Failure Modes
- Instrumentation Details Often Not Provided
- Inadequate or No Evaluation of Instrumentation





# Specific Question

## Security

The FERC regional office engineers have been filling out security information checklists when they visit our facilities. What provisions are being made to safeguard this information, physically and from FOIA requests?



# Security Inspections and Data Collection

- FERC fills out Security Info Checklists During Inspections
- No Security Data are Placed in Final Memos and are Treated as Internal Memos (Decisional) Only, Which are Non-Public and Protected From FOIA



# Security Inspections and Data Collection

- No Electronic Form Of Data Are Used Outside The FERC Network
- Hard Copies Are Permanently Stored In A Secure Exclusion Room.
- Room Has Been Constructed And Accredited As An Exclusion Area In Accordance With The Doe Manual, Doe M 470.4-2, Chapter IV, 5. The Area Is In Accordance With DOE Requirements And Is Approved For Storage, Processing And Transmitting Of Classified Material At The Top Secret And Below Levels.



# Risk- vs. Consequence-Based Security Grouping

- Security Groups 1, 2, & 3 have been Consequence-based
- FERC now considering Risk to better Group Dams based on:
  - Consequence (C)
  - Vulnerability (V)
  - Likelihood of Attack (L)
- Will result in modifications of the list (currently being verified)
- Will decrease the number of Group 1 Dams



# Revision to Security Program Guidance

- Revision 2 to the Guidance is being drafted
- Considering update cycle of VA and SA documents
- Periodic testing of Security Plans
- Discussion of the FERC Internal Security Memo
- Suggested Threat Level Scenarios to be considered



# 2008 Security Workshop

- Will be held on August 19, 2008 in Traverse City, MI
- In conjunction with DHS GCC/SCC Meetings
- Will be a one day conference
- Discussion of FERC Security Initiatives



# Specific Question

## Risk Assessment

Is It The FERC Intent To Connect The “PFMA” Findings With “Risk Assessment” Which Might Be The Next Step In The Dam Safety Improvement Program?



# Potential Failure Mode Analysis

- Ferc's PFMA Process Implementation Began In 2003
- All Projects Subject To A Part 12D Inspection Will Have Had A PFMA Completed By The End Of 2007
- The PFMA Process Has Been Beneficial To Both Licensees And The FERC





# Potential Failure Mode Analysis Future Part 12D Inspections

- The FERC Inspector Will Conduct Their Inspection At The Same Time As IC
- Prior To The Inspection, Owner, IC And FERC Will Review The PFMA Report
- Determine If New Pfms Should Be Added
- Confirm Current Categories Are Appropriate



# Potential Failure Mode Analysis The Next Step

- Significant Hazard Potential Dams Without Part 12D Reports
- Low Hazard Potential Dams



# Risk Based Decision Making

- The FERC recognizes the value risk based decision making brings to dam safety
- The FERC is exploring how Risk Assessment techniques can be best utilized in a regulatory environment



# Risk Assessment

- Staff trained and receptive
- Inventory Risk Assessment
- Pilot Risk Assessment of Project
- Partnering with USACE and Reclamation



# Ongoing Initiatives and Projects

- Pumped Storage Safety Guidance Task Group
- Regional Technical and Management Coordination
- Owners Dam Safety Programs



# Pumped Storage Technical Guidance Task Group

- Review of All FERC Pumped Storage Projects Following Taum Sauk
- November 2006 Workshop With All Owners, Consultants, Federal and State Agencies
- Examined the need for industry guidance of safe operation
- Owners Endorsed the Need for a Guidance Document



# Pumped Storage Technical Guidance Task Group

- Technical Guidance Task Group Formed
- Industry Led Task Group is developing Safety Guidance
- Held First Meeting – February 2007
- Developed of guidance document
- Presented to at Users Group Meeting



# Regional Coordination

- Makes sense to coordinate and collaborate on technical and management dam safety issues
- Including Federal and Non-Federal dam owners
- Successful in NW – 4th Workshop Scheduled
- California/Mid Pacific Scheduled for January 2009
- Southeast





# Regional Coordination

- Mid-Columbia Seismic Study
- Owners/Reclamation and USACE



# Owners Dam Safety Programs (ODSP)

- ODSP significant factor in major dam failures
- Problems ranged from communication failures to negligence
- Taum Sauk is a wake up call for dam safety community
- Peer review found some owners deferring responsibility
- FERC Dam Safety Program may be encouraging this deference



# Football and Dam Safety



# Owners Dam Safety Programs (ODSP)

## What is a Good Dam Safety Program?

- Understand Responsibility
- Good Communication
- Clear designation of Responsibility
- Sufficient Allocation of Resources
- Learning Organization



# Owners Dam Safety Programs (ODSP)

## What is a Good Dam Safety Program?

- One size does not fit all
- Program meets needs of inventory
- For guidance on what FERC believes constitutes a good dam safety program see the Taum Sauk Stipulation and Consent Agreement on the FERC D2SI website at:

<http://www.ferc.gov/industries/hydropower/safety/projects/taum-sauk.asp>



# Owners Dam Safety Programs (ODSP)

- Discussing importance of ODSP with Owners
- Met with owners with good/not so good programs
- Internal FERC Assessment
- Specific focus of last year's annual inspections
- Owners Self Assessment Evaluation Parameters



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## Questions ?

