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SCHOHARIE CREEK AND GILBOA DAM



GILBOA DAM



DAM IS COMPRISED OF AN EARTHEN EMBANKMENT AND CONCRETE SPILLWAY

GILBOA DAM

- Impounds the waters of Schoharie Creek
- 314 sq. mi. of watershed area
- 19.5 billion gallons of useable capacity
- Spillway/Dam crest elevation = 1130'



CRITICAL RESERVOIR ELEVATIONS

- 1130.0 feet - cresting of reservoir
- 1132.0 feet - flood stage - minor
- 1133.0 feet - moderate flood stage
- 1135.0 feet - major flood stage
- 1136.6 feet - historic flood elevation

DAM ANALYSIS - BACKGROUND

1998-2003 Gilboa dam analysis as part of
DEP review of all dams

- 2004 - design phase began
- 2005 - review of safety factors
 - 1996 - historical flood factor
 - Re-evaluation of safety factors in light of recent climatological events
 - Findings yield safety factor less than minimum recommended

ACTIONS IN RESPONSE TO RISK

- IMMEDIATE
- SHORT TERM - 30 days to 18 months
- LONG TERM - total dam reconstruction -
scheduled for 2010 (under review)

ACTIONS IN RESPONSE TO RISK

IMMEDIATE

- Reduction of reservoir level
- Monitoring
 - NWS - advanced hydrological production service (AHPS)
 - Heightened with DEP police every two hours
 - WOH every shift
- Borings
 - Mobilizing now; completed in 10 weeks

ACTIONS IN RESPONSE TO RISK

SHORT TERM

- Install extensive monitoring equipment
 - Flow and pressure gauges
 - Alarms
 - Lighting
 - Monuments
- Strengthening by vertical anchors
- Notching

Remove Top 2 Steps



SPILLWAY REPAIR SCHEDULE

- Design Basis
 - Meet DEC Dam Safety Stability Criteria
 - Subsurface Borings/Testing in North Lawn Area
- Interim Repair Construction Schedule
 - Design/Permitting Phase: 10 weeks
 - Contractor Ready to Mobilize: Mid-January
 - Anchor Installation*: 6-9 months
 - Spillway Notch Construction** : 1 month
- Total dam reconstruction 2010 (under review)

* Anchor Installation dependant on non-spill condition

** Spillway Notch construction requires reservoir level to be below crest

EMERGENCY ACTION PLAN (EAP)

EAP Definition

“EAP sets forth basic procedures, duties, and responsibilities to be implemented by DEP and other public safety personnel in the event of an emergency condition at the dam.”

Emergency Condition: “an impending or actual sudden, uncontrolled release of water caused by an incident or accident to, or failure of project structures.”

EMERGENCY ACTION PLAN (EAP)

EMERGENCY SITUATIONS – A & B

- Situation “A”
 - Failure of the dam is imminent or has occurred
 - Initiate Notification procedures immediately with the highest warning (evacuate impacted downstream areas)
- Situation “B”
 - A potentially hazardous situation at the dam is developing
 - Recommend initiating Notification procedures (partial evacuation of areas where reaction time is limited) and emergency repair activities

