

## **Response Time Enhancements**

There are four response times that are critical for an effective response to a dam safety emergency. The following are enhancements that dam owners and local Emergency Management Agencies (EMAs) are undertaking to decrease these response times:

### **Detection Time**

- Tighten existing headwater and tailwater alarm set points.
- Install new remote monitoring systems.
- Install solar-powered instruments that need no electrical or communication hook-ups.
- Standardize/increase the frequency of checking verification devices.

### **Verification Time**

- Install independent/redundant instruments and alarms.
- Install remote access cameras (still-photo or video).
- Install lights on gages for nighttime camera verification.
- Use thermal imaging devices to detect temperature changes of a structure.
- Verify high flows with real-time USGS gages and the National Weather Service. Note: Some USGS gages have camera systems that can be used as a secondary verification system.
- Get non-employees that are closer to the dam to verify a problem (e.g., local police).

### **Notification Time**

- Streamline internal procedures as described on the notification flow chart.
- Add redundancy to the notification flow chart in case people are unavailable.
- Provide preliminary notification to EMAs.
- Develop pre-scripted messages for callers.
- Use a dam-owner controlled Reverse 911 system to notify several agencies at once.

### **EMA Response Time**

- Use Reverse 911 system to notify residents.
- Prepare pre-scripted messages for Reverse 911 system that explain what residents should do.

### **EMA Response Time (cont)**

- Use automatic alert system that sends text messages to residents.
- Install sirens.
- Provide NOAA radios to residents.
- Have dam owner warn residents directly (upon agreement with EMA).