

DAM SAFETY PROGRAM, DIVISION OF WATER RESOURCES

Performance Evaluation, February 2014

Report Highlights

Division of Water Resources
Department of Natural Resources

PURPOSE

Evaluate the Division's oversight of dam safety in Colorado.

BACKGROUND

- Dams are classified according to the risk posed if they fail. The classifications are high hazard if failure could cause loss of human life, significant hazard if failure could cause significant property damage and low or no public hazard.
- The Division oversees just over 1,800 non-federally owned dams and focuses its regulatory activities on larger and higher hazard dams.
- One of the Division's key responsibilities is to conduct safety inspections of dams and identify actions needed to improve the safe operation of dams and minimize risk. The Division determines how often dams should be inspected based on their hazard classification.
- The Division collects and reviews Emergency Action Plans (EAPs) created by dam owners. EAPs provide critical information for managing dam emergencies, including contact information for those responsible for responding in a dam emergency and those likely to be affected, as well as maps of the streams that would be flooded if the dam failed.
- The Division is responsible for approving plans prior to construction or modification of a dam and approving final construction projects on dams.

EVALUATION CONCERN

The Division needs to strengthen controls and enforcement options to further ensure the safe operation of dams in Colorado.

KEY FACTS AND FINDINGS

- Some high hazard dams are not inspected in strict compliance with the Division's annual inspection cycle. For example, 12 dams were more than 6 months past their inspection due dates. Regular inspections help ensure dams are operating safely and identify when a dam's water level should be restricted for safe operation.
- Some hazard reclassification reviews are not conducted timely. Dams' hazard levels need to be reclassified due to changes in their conditions, such as new downstream development. The eight dams reclassified by the Division between November 1, 2012 and October 31, 2013 took a median of 20 months, and one dam took more than 14 years, to be reviewed. Timely reclassifications are important because the frequency of safety inspections and certain dam safety requirements are based on the classification. Delays in reclassifying dams to a higher hazard class could pose a risk to public safety.
- Some dam Emergency Action Plans (EAPs) are not on file with the Division, some are incomplete, and some do not appear to have been updated and tested as required. We found at least 29 of the 686 EAPs that should be filed with the Division were not; 84 percent of the 79 EAPs reviewed were missing at least one important component, such as lists of people and structures at risk in an emergency; and the average age of EAPs on file was 7.5 years, indicating the EAPs were not current. EAPs are intended to provide a basis for the Division to help direct operations in case of a dam emergency.
- The Division lacks efficient mechanisms to motivate dam owners to comply with dam safety rules and statutes. The Division can only charge fines through court proceedings and cannot charge for the additional inspections it conducts when dam reservoir levels are restricted. Our evaluation found some ongoing violations of rules and statutes, such as owners failing to maintain their dams in a timely fashion or conduct certain inspections for which they are responsible.
- There are delays sometimes in the Division's review and approval of dam owners' plans for dam construction, modifications or repairs, and final construction. For example, approximately 29 percent of the plans the Division reviewed between November 1, 2011 and October 31, 2012 took more than nine months to approve.

OUR RECOMMENDATIONS

- Strengthen processes to ensure that dams are inspected timely and inspection reports are complete.
- Ensure that dam hazard reclassifications are conducted timely.
- Strengthen emergency action planning.
- Seek methods to improve dam owner compliance with statutes and laws.
- Improve the timeliness of design reviews.

The Division agrees with these recommendations.