

Dam Safety



Wolf Creek Dam - Lake Cumberland, KY

What is a dam?

A dam is defined by KRS 151 as any structure that is 25 feet in height, measured from the downstream toe to the crest of the dam, or has a maximum impounding capacity of 50 acre-feet or more at the top of the structure.

Existing Dams

KRS 151.293, Section 6, authorizes the Energy and Environment Cabinet to inspect existing structures that meet the definition of a dam. The Dam Safety Section of the Water Resources Branch maintains a list of these structures in an inventory database. In determining the frequency of inspection of a particular dam, the cabinet takes into consideration the size and type, topography, geology, soil condition, hydrology, climate, use of the reservoir, the lands lying in the floodplain downstream and the hazard classification of the dam.

Dam Classifications

High Hazard (C) Structures located such that failure may cause loss of life or serious damage to houses, industrial or commercial buildings, important public utilities, main highways or major railroads.

Significant Hazard (B) Structures located such that failure may cause significant damage to property and project operation, but loss of human life is not envisioned.

Low Hazard (A) Structures located such that failure would cause loss of the structure itself but little or no additional damage to other property.

High hazard dams are inspected every year. Significant-hazard dams are inspected every three years. Low-hazard dams are inspected every five years. A Certificate of Inspection is issued to the owner notifying them of any deficiencies.

New Dams

Depending on the type of dam, periodic inspections are performed during the construction of a new dam. A final inspection is performed when the construction is complete and as-built drawings are submitted. If the dam is constructed according to the plans and specifications, a letter is issued approving the impounding of water. The dam is then added to the inventory.

Water Resources Branch, Dam Safety Section

Staff with the Dam Safety Section periodically inspect all dams on the inventory as long as they continue to operate (approximately 300 dams each year). Each inspection starts with a complete file review in the office to note any identified deficiencies and to become familiar with hydrologic evaluations. The inspector then performs the field evaluation.

In the field, the inspector conducts a complete visual inspection. Surveys are completed for dams with missing measurements. Photographs help provide a permanent record of observations. Following the inspection, a letter and report are provided to the owner listing the observations and, if needed, deficiencies and remedial measures required. Enforcement action is sometimes required to ensure proper dam maintenance or modification.

The section can take emergency action if a structure is in danger of failing and poses a threat to life or may cause serious property damage. The DEP Emergency Response Team is equipped with siphon pipes and pumps to help an owner drain water from a reservoir in an emergency. KRS 151.297 empowers the Energy and Environment Cabinet to take emergency action if an owner abandons a dam or refuses to take necessary action.

Links to other dam safety sites:

[ASDSO](#)

Association of State Dam Safety Officials