Energy, Mineral and Land Resources
ENVIRONMENTAL QUALITY

Documents related to HAZARD CLASSIFICATION

(HazClassCriteria form revised 02/14/18)

Definitions of Hazard Classifications (*15A NCAC 2K .0105 CLASSIFICATION OF DAMS***)**

(a) For the purposes of this Subchapter, dams shall be divided into three classes, which shall be known as **class A (low hazard)**, **class B (intermediate hazard)**, and **class C (high hazard)**:

(1) **Class A** includes dams located where failure may damage uninhabited low value non-residential buildings, agricultural land, or low volume roads.

(2) **Class B** includes dams located where failure may damage highways or secondary railroads, cause interruption of use or service of public utilities, cause minor damage to isolated homes, or cause minor damage to commercial and industrial buildings. Damage to these structures will be considered minor only when they are located in back water areas not subjected to the direct path of the breach flood wave; and they will experience no more than 1.5 feet of flood rise due to breaching above the lowest ground elevation adjacent to the outside foundation walls or no more than 1.5 feet of flood rise due to breaching above the lowest floor elevation of the structure, the lower of the two elevations governing. All other damage potential will be considered serious.

(3) **Class C** includes dams located where failure will likely cause loss of life or serious damage to homes, industrial and commercial buildings, important public utilities, primary highways, or major railroads.

(b) Classifications shall be proposed by the design engineer and are subject to approval by the Director.

(c) Probable future development of the area downstream from the dam that would be affected by its failure shall be considered in determining the classification.

(d) Dams will be subject to reclassification if the Director determines that the hazard potential has changed. Non-structural provisions of adequately demonstrated effectiveness and reliability such as flood plain zoning, and early warning systems may be considered by the Director in making this determination.

(e) When dams are spaced so that the failure of an upper dam would likely fail a lower dam, the consequence of the lower dam's failure shall be a determining factor for the upper dam's hazard classification.

(f) In assigning a hazard classification where a bridge or roadway is the only damageable property below a dam, consideration shall be given to the possibility of loss of human life, indirect economic impact through loss of service, and direct cost of damage to the bridge or roadway.

History Note: Statutory Authority G.S. 143-215.31; 143-215.34; Eff. June 15, 1980.

Exemption Criteria from Dam Safety Law of 1967 (*§ 143-215.25A. Exempt dams – last update on 06/29/17**)***

(a) Except as otherwise provided in this Part, this Part does not apply to any dam:

(1) Constructed by the United States Army Corps of Engineers, the Tennessee Valley Authority, or another agency of the United States government, when the agency designed or approved plans for the dam and supervised its construction.

(2) Constructed with financial assistance from the United States Natural Resources Conservation Service, when that agency designed or approved plans for the dam and supervised its construction.

(3) Licensed by the Federal Energy Regulatory Commission, or for which a license application is pending with the Federal Energy Regulatory Commission.

(4) For use in connection with electric generating facilities regulated by the Nuclear Regulatory Commission.

(5) Under a single private ownership that provides protection only to land or other property under the same ownership and that does not pose a threat to human life or property below the dam.

(6) (See Editor's Note) That is less than 25 feet in height or that has an impoundment capacity of less than 50 acre-feet, unless the Department determines that failure of the dam could result in loss of human life or significant damage to property below the dam. (7) (See Editor's Note) Constructed for and maintains the purpose of providing water for agricultural use, when a person who is licensed as a professional engineer or is employed by the Natural Resources Conservation Service, county, or local Soil and Water Conservation District, and has federal engineering job approval authority under Chapter 89C of the General Statutes designed or approved plans for the dam, supervised its construction, and registered the dam with the Division of Energy, Mineral, and Land Resources of the Department prior to construction of the dam. This exemption shall not apply to dams that are determined to be high-hazard by the Department.

(7) (See Editor's Note) Constructed for and maintains the purpose of providing water for agricultural use, when a person who is licensed as a professional engineer or is employed by the Natural Resources Conservation Service, county, or local Soil and Water Conservation District, and has federal engineering job approval authority under Chapter 89C of the General Statutes designed or approved plans for the dam, supervised its construction, and registered the dam with the Division of Energy, Mineral, and Land Resources of the Department prior to construction of the dam. This exemption shall not apply to dams that are determined to be high-hazard by the Department.

(b) The exemption from this Part for a dam described in subdivisions (1) and (2) of subsection (a) of this section does not apply after the supervising federal agency relinquishes authority for the operation and maintenance of the dam to a local entity. (1993, c. 394, s. 3; 2009-390, s. 3(a); 2011-394, s. 10(a); 2012-143, s. 1(f); 2013-265, s. 20.)

General Quantified Hazard Classification Economic Criteria:

Dam Hazards Classification

Hazard Classification	Description	Quantitative Guidelines
Low	Interruption of road service, low volume roads	Less than 25 vehicles per day
	Economic damage	Less than $30,000
Intermediate	Damage to highways, Interruption of service	25 to less than 250 vehicles per day
	Economic damage	$30,000 to less than $200,000
High	Loss of human life*	Probable loss of 1 or more human lives
	Economic damage	More than $200,000
	*Probable loss of human life due to breached roadway or bridge on or below the dam.	250 or more vehicles per day

NOTE: Cost of dam repair and loss of services should be included in economic loss estimate if the dam is a publicly owned utility, such as a municipal water supply dam.

*Dam Safety Program may ask for additional information involving engineering analysis (i.e. dam breach analysis) if the potential downstream hazards cannot be identified adequately.