

**567—72.3(455B) Dams.** The following criteria shall apply to dams which exceed the thresholds in 567—71.3(455B).

**72.3(1) General criteria for all regulated dams.**

*a. Required findings.* The department will approve the construction, operation or maintenance of a dam or modification of a dam or appurtenant structure only after finding that the project is designed in accordance with accepted engineering practice and methods and in a manner consistent with the applicable criteria and guidelines in department Bulletin No. 16, “Design Criteria and Guidelines for Iowa Dams,” December 1990.

*b. Anticipation of changed circumstances.* In applying the approval criteria in subrule 72.3(1), paragraph “a,” consideration shall be given to both existing conditions and potential future conditions which can reasonably be anticipated at the time the application is reviewed.

*c. Landowner notification.* The department staff engineering review of the plans and specifications for a dam project shall determine whether there are lands upstream, downstream, or adjacent to the impoundment whose use apparently would be potentially adversely affected by maintenance of the dam and appurtenant structures, spillway discharges, temporary ponding of floodwater behind the dam, or failure of the dam. It is the applicant’s responsibility to submit sufficient information with the application and on request to enable the staff to accurately identify the owners and occupants of affected lands. The staff shall notify all known affected owners and occupants that the project may affect use of land in which they have an interest and advise them of their opportunity to be heard on the application. The project shall not be approved unless it appears that notice reasonably calculated to advise all owners and occupants has been given and that they have had an opportunity to be heard.

**72.3(2) Dams other than low head dams.** The following criteria shall apply to all dams other than low head dams:

*a. Assignment of hazard class.* Dams shall be assigned a hazard class based on the potential consequences of failure. Anticipated future land and impoundment use shall be considered in the determination of hazard class. The criteria in this subrule shall be used to determine hazard class regardless of the methodology used in engineering design of a dam. The hazard class shall determine the design requirements of the structure as outlined in department Bulletin No. 16. The hazard class shall be evaluated using the following criteria:

(1) *Low hazard.* A structure shall be classified as low hazard if located in an area where damages from a failure would be limited to loss of the dam, loss of livestock, damages to farm outbuildings, agricultural lands, and lesser used roads, and where loss of human life is considered unlikely.

(2) *Moderate hazard.* A structure shall be classified as moderate hazard if located in an area where failure may damage isolated homes or cabins, industrial or commercial buildings, moderately traveled roads or railroads, interrupt major utility services, but without substantial risk of loss of human life. In addition, structures where the dam and its impoundment are of themselves of public importance, such as dams associated with public water supply systems, industrial water supply or public recreation, or which are an integral feature of a private development complex, shall be considered moderate hazard for design and regulatory purposes unless a higher hazard class is warranted by downstream conditions.

(3) *High hazard.* A structure shall be classified as high hazard if located in an area where failure may create a serious threat of loss of human life or result in serious damage to residential, industrial or commercial areas, important public utilities, public buildings, or major transportation facilities.

(4) *Multiple dams.* Where failure of a dam could contribute to failure of a downstream dam or dams, the minimum hazard class of the dam shall not be less than that of any such downstream structure.

*b. Lands, easements, and rights-of-way.* An application for approval of a dam project shall include information showing the nature and extent of lands, easements, and rights-of-way which the applicant has acquired or proposes to acquire to satisfy the following criteria:

(1) Ownership or perpetual easements shall be obtained for the area to be occupied by the dam embankment, spillways, and appurtenant structures, and the permanent or maximum normal pool;

(2) Ownership or easements shall be obtained for temporary flooding of areas which would be inundated by the flood pool up to the top of dam elevation and for spillway discharge areas;

(3) Easements covering areas affected by temporary flooding or spillway discharges shall include provisions prohibiting the erection and usage of structures for human habitation or commercial purposes without prior approval by the agency;

(4) In locating the site of a dam and in obtaining easements and rights-of-way, the applicant shall consider the impacts which anticipated changes in land use downstream of a dam or adjacent to the impoundment could have on the hazard class of the dam, the operation of the dam, and the potential liability of the dam owner;

(5) The applicant may be required to acquire control over lands downstream from the dam as necessary to prevent downstream development which would affect the hazard class of the dam.

*c. Other approvals required.* The applicant shall comply with all applicable provisions of 567—Chapters 51, 52 and 73 concerning water storage permits, operating permits, and inspections.

*d. Additional requirements for major dam structures.* Dams which are major dam structures as defined in 567—Chapter 70 must satisfy additional criteria set forth in Chapter VI of department Bulletin No. 16.

**72.3(3) Low head dams.** The following criteria shall apply to low head dams:

*a.* The location and design of a low head dam shall not adversely affect the fisheries or recreational use of the stream.

*b.* The pool created by a low head dam shall not adversely affect drainage on lands not owned or under easements by the applicant.

*c.* The structure shall be hydraulically designed to submerge before bankfull stage is reached in the stream channel in order that increased or premature overbank flooding does not occur. Where this cannot be reasonably accomplished in order for the structure to fulfill its intended purpose, the applicant shall demonstrate that any increased flooding will affect only lands owned or controlled by the applicant.

*d.* For projects which include significant appurtenant structures or works outside the stream channel, the combined effect of the total project shall not create more than 1 foot of backwater during floods which exceed the flow capacity of the channel, unless the proper lands, easements, or rights-of-way are obtained.

*e.* The structure shall be capable of withstanding the effects of normal and flood flows across its crest and against the abutments, and adjacent channel or bank areas shall be protected against erosion as needed.

**72.3(4) Operating plan.** For any dam with movable structures which must operate or be operated during times of flood or to provide minimum downstream flow, or where the impoundment level is raised or lowered on a regular basis, an operating plan must be submitted for approval. The plan shall be in accordance with department Bulletin No. 16 and rules in 567—Chapter 73.

**72.3(5) Encroachment on a confinement feeding operation structure.** A dam shall not be constructed or modified so that the ordinary high water of the lake, pond or reservoir created by the dam is closer than the following distances from a confinement feeding operation structure unless a secondary containment barrier according to 567—subrule 65.15(17) is in place. Measurement shall be from the closest point of the confinement feeding operation structure to the water edge of the lake, pond or reservoir for a pool level at the elevation of the crest of the emergency spillway or at the top of dam elevation should the dam not have an emergency spillway.

*a.* Minimum separation between a water source other than a major water source and a confinement feeding operation structure is 500 feet.

*b.* Minimum separation between a major water source and a confinement feeding operation structure is 1,000 feet or such distance that the structure is not located on land that would be inundated by Q100, whichever is greater.

This rule is intended to implement Iowa Code sections 455B.262, 455B.264, 455B.270, 455B.275 and 455B.277.