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Virginia

TABLE 1--Impounding Structure Regulations

Class of Dam	Hazard Potential If Impounding Structure Fails	SIZE CLASSIFICATION		Spillway Design Flood (SDF) ^b
		Maximum Capacity (Ac-Ft) ^a	Height(Ft) ^a	
I	Probable Loss of Life; Excessive Economic Loss	Large $\geq 50,000$	≥ 100	PMF ^c
		Medium $\geq 1,000$ & $< 50,000$	≥ 40 & < 100	PMF
		Small ≥ 50 & $< 1,000$	≥ 25 & < 40	1/2 PMF to PMF
II	Possible Loss of Life; Appreciable Economic Loss	Large $\geq 50,000$	≥ 100	PMF
		Medium $\geq 1,000$ & $< 50,000$	≥ 40 & < 100	1/2 PMF to PMF
		Small ≥ 50 & $< 1,000$	≥ 25 & < 40	100-YR to 1/2 PMF
III	No Loss of Life Expected; Minimal Economic Loss	Large $\geq 50,000$	≥ 100	1/2 PMF to PMF
		Medium $\geq 1,000$ & $< 50,000$	≥ 40 & < 100	100-YR to 1/2 PMF
		Small ≥ 50 & $< 1,000$	≥ 25 & < 40	50-YR ^d to 100-YR ^e
IV	No Loss of Life Expected; No Economic Loss to Others	≥ 50 (non-agricultural) ≥ 100 (agricultural)	≥ 25 (both)	50-YR to 100-YR

North Carolina

Category	Potential Loss of Life	Potential for Damage	Normal Pool Storage	Height	Inflow Design Flood
C (High)	Loss of human life * (probable loss of 1 or more human lives) * Probable loss of human life due to breached roadway or bridge on or below the dam (250 vehicles per day at 1000 ft. visibility; 100 vehicles per day at 500 ft. visibility; 25 vehicles per day at 200 ft visibility)	Economic damage (more than \$200,000)	Very Large > 50,000 Large > 7,500 & <50,000 Medium > 750 & <7,500 Small < 750	> 100 > 50 & < 100 > 35 & < 50 < 35	PMP 3/4 PMP 1/2 PMP 1/3 PMP
B (Intermediate)		Damage to highways, interruption of service (25 to less than 250 vehicles per day) Economic Damage (\$30,000 to less than \$200,000)	Very Large > 50,000 Large > 7,500 & <50,000 Medium > 750 & <7,500 Small < 750	> 100 > 50 & < 100 > 35 & < 50 < 35	3/4 PMP 1/2 PMP 1/3 PMP 100-YR
A (Low)		Interruption of road service, low volume roads (less than 25 vehicles per day) Economic Damage (Less than \$30,000)	Very Large > 50,000 Large > 7,500 & <50,000 Medium > 750 & <7,500 Small < 750	> 100 > 50 & < 100 > 35 & < 50 < 35	1/2 PMP 1/3 PMP 100-YR 50-YR

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 municipal water supply dam.

It is recognized that the relationships between valley slope and width, total reservoir storage, drainage area, other hydrologic factors, and specific cultural features have a critical bearing on determining the safe spillway design flood. Rational selection of a safe spillway design flood for specific site conditions based on quantitative analysis is acceptable. The spillway should be sized so that the increased downstream damage resulting from overtopping failure of the dam would not be significant as compared with the damage caused by the flood in the absence of dam overtopping failure.

Maryland

Category	Potential Loss of Life	Potential for Damage	Normal Pool Storage	Height	Inflow Design Flood
I (high)	probable	Serious damage to residential, industrial or commercial buildings, public roads or RR	20,000 ac-ft or more	50 ft or more	PMF
II (significant)	Small possibility	Located in predominantly rural or agricultural areas where failure may cause damage to isolated residence or cause interruption of use or service of public utilities or roads. Damage is within the financial capability of owner to repair.	Greater than 1000 ac-ft and less than 20,000 ac-ft	Greater than 25 ft and less than 50 ft	The inflow design flood shall be the standard project flood or the largest flood of record, whichever is greater.
III (low)	Very unlikely	Damage is of same magnitude as cost of dam and within financial capability of owner to repair	Less than 1000 ac-ft	Less than 25 ft	The inflow design flood shall be one having a recurrence interval of once in 100 years or longer
IV			Less than 100 ac-ft	Less than 15 ft	Shall be as defined in USDA, Natural Resource Conservation Service, Maryland Conservation Practice, Standard Pond Code 378 (January, 2000)

Inflow Design Flood. The inflow design flood for Category I dams shall be the probable maximum flood. For Category II dams the inflow design flood shall be the standard project flood or the largest flood of record, whichever is greater. For Category III dams the inflow design flood shall be one having a recurrence interval of once in 100 years or longer. For Category IV dams the inflow design flood shall be as defined in USDA, Natural Resource Conservation Service, Maryland Conservation Practice, Standard Pond Code 378 (January, 2000), which is incorporated by reference in COMAR 26.17.02.01-1B(2). Criteria shall be provided or approved by the Administration for each of the above inflow design floods.

Category IV is reserved for those structures which have a contributing drainage area of less than 1 square mile (640 acres), and a normal depth of water less than 15 feet above the original stream bed, and a normal surface area less than 12 acres

Dams qualifying for the Category III classification may be classed in Category IV, if all of the requirements of Environment Article, §5-503(b), Annotated Code of Maryland, are met with the exception of §5-503(b)(1).

West Virginia

twenty-five (25) feet or more in height and can impound fifteen (15) acre-feet or more of water; or six (6) feet or more in height and which does or can impound fifty (50) acre-feet or more of water.

Category	Potential Loss of Life	Potential for Damage	Normal Pool Storage	Height	Inflow Design Flood
1 (high)	This classification must be used if failure may result in the loss of human life.	major damage to dwellings, commercial or industrial buildings, main railroads, important public utilities, or where a high risk highway may be affected or damaged			probable maximum precipitation of six (6) hours in duration [The design precipitation may be reduced based on Risk Assessment but in no case to less than seventy percent (70%) of the PMP.]
2 (significant)	unlikely	minor damage to dwellings, commercial or industrial buildings, important public utilities, main railroads, or cause major damage to unoccupied buildings, or where a low risk highway may be affected or damaged.			shall be designed for fifty percent (50%) of a probable maximum precipitation of six (6) hours duration [The design precipitation may be reduced based on Risk Assessment but in no case to less than twenty-five percent (25%) of the PMP.]
3 (low)	unlikely	only a loss of the dam itself and a loss of property use, such as use of related roads, with little additional damage to adjacent property. Those dams located in rural or agricultural areas where failure may cause minor damage to nonresidential and normally unoccupied buildings, or rural or agricultural land.	< 400 acre -ft	< 40 ft	shall be designed for twenty-five percent (25%) of a probable maximum precipitation of six (6) hours in duration [The design precipitation may be reduced based on Risk Assessment but in no case to less than a P100 rainfall of six (6) hours in duration.]
4 (negligible)	no potential for loss of human life	no potential for property damage and no potential for significant harm to the environment			shall be designed for a P100 rainfall of six (6) hours in duration

An impoundment exceeding forty (40) feet in height or four hundred (400) acre-feet storage volume shall not be classified as a Class 3 dam.

Pennsylvania

Category	Potential Loss of Life	Potential for Damage	Normal Pool Storage	Height	Inflow Design Flood
1	Substantial	Excessive (extensive residential, commercial, agricultural and substantial public inconvenience)	A \geq 50,000 B > 1,000 & < 50,000 C \leq 1,000	A \geq 100 B > 40 & < 100 C \leq 40	PMF PMF 1/2 PMF to PMF
2	Few (no rural communities or urban developments and no more than a small number of habitable structures)	Appreciable (damage to private or public property and short duration public inconvenience)	A \geq 50,000 B > 1,000 & < 50,000 C \leq 1,000	A \geq 100 B > 40 & < 100 C \leq 40	PMF 1/2 PMF to PMF 100 year to 1/2 PMF
3	None expected (no permanent structure for human habitation)	Minimal (undeveloped or occasional structures with no significant effect on public inconvenience)	A \geq 50,000 B > 1,000 & < 50,000 C \leq 1,000	A \geq 100 B > 40 & < 100 C \leq 40	1/2 PMF to PMF 100 year to 1/2 PMF 50 year to 100 year frequency

Size classification may be determined by either storage or height of structure, whichever gives the higher category.

The design flood is intended to represent the largest flood that need be considered in the evaluation of a given project. When a range of design flood is indicated, the magnitude that most closely relates to the size and hazard potential shall be selected. Design flood criteria shall be as indicated in the following table:

The Department may, in its discretion, require consideration of a minimum design flood for a class of dams or reservoirs in excess of that set forth in subsection when it can be demonstrated that the design flood requirement is necessary and appropriate to provide for the integrity of the dam or reservoir and to protect life and property with an adequate margin of safety.

The Department may, in its discretion, consider a reduced design flood for a class of dams or reservoirs when it can be demonstrated that the design flood provides for the integrity of the dam or reservoir and protects life and property with an adequate margin of safety.

Kentucky

Category	Potential Loss of Life	Potential for Damage	Normal Pool Storage	Height	Inflow Design Flood
C (high)	This classification must be used if failure would cause probable loss of human life.	failure would cause serious damage to homes, commercial buildings, utilities, highways or railroads	fifty acre-feet or more	twenty-five feet or more	Class (C) $P_C = PMP$
B (moderate)	loss of life is not envisioned	failure would cause significant damage to property and project operation Such structures will generally be located in predominantly rural agricultural areas where failures may damage isolated homes, main highways or major railroads, or cause interruption of use or service of relatively important public utilities.	fifty acre-feet or more	twenty-five feet or more	Class (B) $P_B = P_{100} + 0.40 \times (PMP - P_{100})$
A (low)		failure would result in loss of the structure itself, but little or no additional damage to other property Such structures will generally be located in rural or agricultural areas where failure may damage farm buildings other than residences, agricultural lands, or county roads.	fifty acre-feet or more	twenty-five feet or more	

The responsible engineer shall determine the classification of the proposed structure after considering the characteristics of the valley below the site and probable future development.

Establishment of minimum criteria does not preclude provisions for greater safety when deemed necessary in the judgment of the engineer. Considerations other than those mentioned in the above classifications may make it desirable to exceed the established minimum criteria. A statement of the classification established by the responsible engineer shall be clearly shown on the first sheet of the plans.

In which P denotes 6-hour design rainfall, P100 refers to 6-hour, 100-year precipitation, and PMP represents 6-hour Probable Maximum Precipitation.

The establishment of the above criteria does not eliminate the need for sound engineering judgment but only establishes the lowest limit of design considered acceptable.

It is the responsibility of the design engineer to classify the structure and to determine if the design requirements are in excess of the minimum.

Tennessee

Category	Potential Loss of Life	Potential for Damage	Normal Pool Storage	Height	Inflow Design Flood
1 (high)	failure would probably result in loss of human life	failure would probably result in excessive economic loss due to damage of downstream properties; excessive economic loss, public hazard, or public inconvenience due to loss of impoundment and/or damage to roads or any public or private utilities	Large $\geq 50,000$ Intermediate 1,000 to 50,000 Small 30 to 999	≥ 100 41 to 100 20 to 40	Old PMP PMP 1/2 PMP New PMP PMP 1/2 PMP
2 (significant)	Chances of loss of life would be possible but remote	failure may damage downstream private or public property, but such damage would be relatively minor and within the general financial capabilities of the dam owner. Public hazard or inconvenience due to loss of roads or any public or private utilities would be minor and of short duration.	Large $\geq 50,000$ Intermediate 1,000 to 50,000 Small 30 to 999	≥ 100 41 to 100 20 to 40	Old PMP 1/2 PMP 1/3 PMP New PMP PMP 1/2 PMP
3 (low)	No loss of human life would be expected	failure may damage uninhabitable structures or land but such damage would probably be confined to the dam owner's property.	Large $\geq 50,000$ Intermediate 1,000 to 50,000 Small 30 to 999	≥ 100 41 to 100 20 to 40	Old 1/2 PMP 1/3 PMP 100 year New PMP PMP 1/2 PMP

All dams shall have an emergency spillway system with capacity to pass a flow resulting from a 6-hour design storm indicated in the minimum design storm criteria for the size corresponding to the dam [Marked as new in the table]. Any new dam constructed between October 3, 1987, and February 19, 2001, shall be required to pass the Freeboard Design Storm specified in subparagraph 1200-5-7-.06(3)(b) [Marked old in table]. However, if the applicant's engineer provides calculations, designs, and plans to show that the design flow can be stored, passed through, or passed over the dam without failure occurring, or if he can successfully demonstrate to the Commissioner that the dam is a safe structure and can certify that the dam is sufficient to protect against probable loss of human life downstream, said dam design may be approved by the Commissioner. The establishment of the minimum design storm criteria does not eliminate the need for sound engineering judgment but only establishes the lowest limit of design considered acceptable.

New Jersey

Category	Potential Loss of Life	Potential for Damage	Normal Pool Storage	Height	Inflow Design Flood
1 (high)	failure of which may cause the probable loss of life. The existence of normally occupied homes in the area that are susceptible to significant damage in the event of a dam failure will be assumed to mean "probable loss of life".	failure of which may cause extensive property damage. Extensive property damage means the destructive loss of industrial or commercial facilities, essential public utilities, main highways, railroads or bridges. A dam may be classified as having a high hazard potential based solely on high projected economic loss. Recreational facilities below a dam, such as a campground or recreation area, may be sufficient reason to classify a dam as having a high hazard potential.			PMP
2 (significant)	loss of human life is not envisioned	failure may cause significant damage to property and project operation. This classification applies to predominantly rural, agricultural areas, where dam failure may damage isolated homes, major highways or railroads or cause interruption of service of relatively important public utilities.			1/2 PMP
3 (low)		failure of which would cause loss of the dam itself but little or no additional damage to other property. This classification applies to rural or agricultural areas where failure may damage farm buildings other than residences, agricultural lands or non-major roads.			24 hour 100 year frequency, Type III storm*
4 (small)			This classification includes any project which impounds less than 15 acre-feet of water to the top of dam, has less than 15 feet height-of-dam and which has a drainage area above the dam of 150 acres or less in extent.		24 hour 100 year frequency, Type III storm plus 50%*

The Department will use the following guidelines to classify dams according to hazard. Probable future development of the area downstream from the dam which might be affected by its failure will be considered in determining the hazard classification. The Department may, in its discretion, change the hazard class of any proposed or existing dam.

No dam may be included in Class IV if it meets the criteria for Class I or II. Any applicant may request consideration as a Class III dam upon submission of a positive report and demonstration proving low hazard.

South Carolina

Category	Potential Loss of Life	Potential for Damage	Normal Pool Storage	Height	Inflow Design Flood
I (High)	failure will likely cause loss of life	failure will likely cause serious damage to homes, industrial and commercial facilities, important public utilities, main highways or railroads	Large $\geq 50,000$ Intermediate $\geq 1,000$ & $< 50,000$ Small ≥ 50 & $< 1,000$ Very Small < 50	≥ 100 ≥ 40 & < 100 ≥ 25 & < 40 < 25	PMF PMF 1/2 PMF to PMF 100-yr to 1/2 PMF
II (Significant)	failure will not likely cause loss of life	failure may damage homes, industrial and commercial facilities, secondary highways or railroads or cause interruption of use or service of relatively important public utilities	Large $\geq 50,000$ Intermediate $\geq 1,000$ & $< 50,000$ Small ≥ 50 & $< 1,000$ Very Small < 50	≥ 100 ≥ 40 & < 100 ≥ 25 & < 40 < 25	PMF 1/2 PMF to PMF 100 year to 1/2 PMF
III (Low)	loss of life is not expected	failure may cause minimal property damage to others	Large $\geq 50,000$ Intermediate $\geq 1,000$ & $< 50,000$ Small ≥ 50 & $< 1,000$ Very Small < 50	≥ 100 ≥ 40 & < 100 ≥ 25 & < 40 < 25	1/2 PMF to PMF 100 year to 1/2 PMF 50 to 100-yr frequency

Georgia

Category	Potential Loss of Life	Potential for Damage	Normal Pool Storage	Height	Inflow Design Flood
I	failure would result in probable loss of human life	Situations constituting "probable loss of life" are those situations involving frequently occupied structures or facilities, including, but not limited to, residences, commercial and manufacturing facilities, schools and churches.	Very Large $\geq 50,000$ Large $\geq 1,000$ & $< 50,000$ Medium ≥ 500 & $< 1,000$ Small < 500	≥ 100 ≥ 35 & < 100 ≥ 25 & < 35 < 25	PMP .50 PMP .333 PMP .25 PMP
II	failure would not expect to result in probable loss of human life		Not subject to regulation		

Based on visual inspection and detailed hydrologic and hydraulic evaluation, including documentation of completed design and construction procedures, up to 10 percent lower requirement (22.5, 30, 45, 90) may be accepted on existing PL566 (including RC&D structures) and PL 534 Project Dams at the discretion of the Director, provided the project is in an acceptable state of maintenance. The design storm may be reduced on existing dams if the applicant's engineer can successfully demonstrate to the Director, by engineering analysis, that the dam is sufficient to protect against probable loss of human life downstream at a lesser design storm. Earth emergency spillways shall not function until the 50-year storm.

"PMP" means probable maximum precipitation as determined by the United States Weather Service to be the greatest amount of rainfall of a six-hour duration which would be expected for a given location.

The word 'dam' shall not include: iv) Any dam classified by the director as a category II dam pursuant to Code Section 12-5-375, except that such category II dams shall be subject to the provisions of this part for the purposes of said Code Section 12-5-375 and for the purposes of subsection (b) of Code Section 12-5-376;

Massachusetts

Category	Potential Loss of Life	Potential for Damage	Normal Pool Storage	Height	Inflow Design Flood
I (High)	failure will likely cause loss of life	Dams located where failure will likely cause serious damage to home(s), industrial or commercial facilities, important public utilities, main highway(s) or railroad(s).	Large $\geq 1,000$ Intermediate ≥ 50 & $<1,000$ Small ≥ 15 & <50 Non-jurisdictional not in excess of 15 regardless of height	≥ 40 ≥ 15 & < 40 ≥ 6 & < 15 not in excess of six regardless of storage capacity	<u>Old</u> 1/2 PMF 1/2 PMF 500 year <u>New</u> PMF PMF PMF
II (Significant)	failure may cause loss of life	failure may cause damage home(s), industrial or commercial facilities, secondary highway(s) or railroad(s) or cause interruption of use or service of relatively important facilities.	Large $\geq 1,000$ Intermediate ≥ 50 & $<1,000$ Small ≥ 15 & <50 Non-jurisdictional not in excess of 15 regardless of height	≥ 40 ≥ 15 & < 40 ≥ 6 & < 15 not in excess of six regardless of storage capacity	<u>Old</u> 500 year 500 year 100 year <u>New</u> 1/2 PMF 500 year 500 year
III (Low)	loss of life is not expected	failure may cause minimal property damage to others	Large $\geq 1,000$ Intermediate ≥ 50 & $<1,000$ Small ≥ 15 & <50 Non-jurisdictional not in excess of 15 regardless of height	≥ 40 ≥ 15 & < 40 ≥ 6 & < 15 not in excess of six regardless of storage capacity	<u>Old</u> 100 year 50 year 50 year <u>New</u> 100 year 100 year 100 year

The spillway system shall have a capacity to pass a flow resulting from a design storm as indicated in the following table, unless the applicant provides calculations, designs and plans to show that the design flow can be stored, passed through, or passed over the dam without failure occurring.

Washington

Category	Potential Loss of Life	Potential for Damage	Environmental Damages	Normal Pool Storage	Height	Design Step
High – 1A	More than 300	Extreme. More than 100 inhabited structures. Highly developed, densely populated suburban or urban area with associated industry, property, transportation and community life line features.	Severe water quality degradation potential from reservoir contents and long term effects on aquatic and human life.		Large ≥ 50 Intermediate ≥ 15 & < 50 Small < 15	8 (1 chance in 1 million)
High – 1B	31 - 300	Extreme. 11 to 100 inhabited structures. Medium density suburban or urban area with associated industry, property and transportation features.	Severe water quality degradation potential from reservoir contents and long term effects on aquatic and human life.			4-8
High – 1C	7 to 30	Major. 3 to 10 inhabited structures. Low density suburban area with some industry and work sites. Primary highways and rail lines.	Severe water quality degradation potential from reservoir contents and long term effects on aquatic and human life.			3-6
Significant - 2	1 to 6	Appreciable. 1 or 2 inhabited structures. Notable agriculture or work sites. Secondary highway and/or rail lines.	Limited water quality degradation from reservoir contents and only short term consequences.			3-4
Low - 3	0	Minimal. No inhabited structures. Limited agricultural development.	No deleterious materials in the reservoir contents.			1-2 (1 = 1 chance of 500 of being exceeded in any given year)

Idaho

Category	Potential Loss of Life	Potential for Damage	Normal Pool Storage	Height	Inflow Design Flood
High	Urban development, or any permanent structure for human habitation which are potentially inundated with flood water at a depth of more than 2 ft. or at a velocity of more than 2 ft. per second.	Major damage to land, crops, agricultural, commercial or industrial facilities, loss of use and/or damage to transportation, utilities or other public facilities or values.	Large $\geq 4,000$ Intermediate ≥ 100 & $<4,000$ Small < 100	≥ 40 > 20 & < 40 ≤ 20	PMF 1/2 PMF 100 yr
Significant	No concentrated urban development, 1 or more permanent structures for human habitation which are potentially inundated with flood water at a depth of 2 ft. or less or at a velocity of 2 ft. per second or less.	Significant damage to land, crops, agricultural, commercial or industrial facilities, loss of use and/or damage to transportation, utilities or other public facilities or values.	Large $\geq 4,000$ Intermediate ≥ 100 & $<4,000$ Small < 100	≥ 40 > 20 & < 40 ≤ 20	.5 PMF 500 yr 100 yr
Low	No permanent structures for human habitation.	Minor damage to land, crops, agricultural, commercial or industrial facilities, transportation, utilities or other public facilities or values	Large $\geq 4,000$ Intermediate ≥ 100 & $<4,000$ Small < 100	≥ 40 > 20 & < 40 ≤ 20	500 yr 100 yr 50 yr

The inflow design flood(s) indicated in the table include specific frequency floods (2%/50yr, 1%/100 yr.) expressed in terms of exceedance with a probability the flood will be equaled or exceeded in any given year (a fifty (50) year flood has a two percent (2%) chance of occurring in any given year and a one hundred (100) year flood has a one percent (1%) chance of occurring in any given year); or PMF - probable maximum flood, which may be expected from the most severe combination of meteorologic and hydrologic conditions that are reasonably possible in the region. The PMF is derived from the probable maximum precipitation (PMP) which is the greatest theoretical depth of precipitation for a given duration that is physically possible over a particular drainage area at a certain time of year.

Arkansas

Category	Potential Loss of Life	Potential for Damage	Normal Pool Storage	Height	Inflow Design Flood
high	YES	Excessive (Extensive public, industrial, commercial, or agricultural development); over \$500,000.	Large $\geq 50,000$ Intermediate $> 1,000$ & $< 50,000$ Small 50 to 1000	≥ 100 > 40 & < 100 25 to 40	PMF PMF .5 PMF to PMF
significant	NO	Appreciable (Significant structures, industrial, or commercial development, or cropland); \$100,000 to \$500,000.	Large $\geq 50,000$ Intermediate $> 1,000$ & $< 50,000$ Small 50 to 1000	≥ 100 > 40 & < 100 25 to 40	PMF .5 PMF to PMF .25 PMF to .5 PMF
low	NO	Minimal (No significant structures; pastures, woodland, or largely undeveloped land); less than \$100,000.	Large $\geq 50,000$ Intermediate $> 1,000$ & $< 50,000$ Small 50 to 1000	≥ 100 > 40 & < 100 25 to 40	.5 PMF to .75 PMF .25 PMF to .5 PMF .25 PMF

Dams meeting either of the following criteria are not subject to rules contained in this title, unless Section 701.5 of this title is successfully invoked.

- A. Dams with height less than 25 feet.
- B. Dams with normal storage less than 50 acre-feet.
- C. Dams with crest elevations below the ordinary high water mark of the stream at that location.

All dams will be classified or reclassified as required to assure appropriate safety considerations. Hazard classification shall be based on the more stringent of either potential loss of human life or economic loss in accordance with Table 2 of this section. If doubt exists concerning classification, the more hazardous category must be selected.

Loss of human life is based upon presence of habitable structures.

The minimum hydrologic criteria may be reduced if properly prepared dam breach analyses show that dam failure during the SDF would cause an increase in flood level of one foot or less at, and downstream of, the first habitable structure or financially significant development.

Where SDF ranges are given, the spillway design flood shall be determined by straight line interpolation, based upon the effective height of dam or maximum storage, whichever computed SDF is greater.

Arizona

Category	Potential Loss of Life	Potential for Damage	Normal Pool Storage	Height	Inflow Design Flood
high	Probable - One or more expected	Low to high (not necessary for this classification)	Large $\geq 50,000$ Intermediate $> 1,000$ & $< 50,000$ Small 50 to 1000	≥ 100 > 40 & < 100 25 to 40	.5 PMF to PMF .5 PMF to PMF .5 PMF to PMF
significant	None expected	Low to high	Large $\geq 50,000$ Intermediate $> 1,000$ & $< 50,000$ Small 50 to 1000	≥ 100 > 40 & < 100 25 to 40	.5 PMF .5 PMF .25 PMF
low	None expected	Low	Large $\geq 50,000$ Intermediate $> 1,000$ & $< 50,000$ Small 50 to 1000	≥ 100 > 40 & < 100 25 to 40	.25 PMF .25 PMF .25 PMF
very low	None expected	Economic and lifeline losses limited to owner's property or 100-year floodplain. Very low intangible losses identified.	Large $\geq 50,000$ Intermediate $> 1,000$ & $< 50,000$ Small 50 to 1000	≥ 100 > 40 & < 100 25 to 40	100 yr 100 yr 100 yr

The Department shall base hazard potential classification on an evaluation of the probable present and future incremental adverse consequences that would result from the release of water or stored contents due to failure or improper operation of the dam or appurtenances, regard-less of the condition of the dam. The evaluation shall include land use zoning and development projected for the affected area over the 10 year period following classification of the dam. The Department considers all of the following factors in hazard potential classification: probable loss of human life, economic and lifeline losses, and intangible losses identified and evaluated by a public resource management or protection agency.

a. The Department bases the probable incremental loss of human life determination primarily on the number of permanent structures for human habitation that would be impacted in the event of failure or improper operation of a dam. The Department considers loss of human life unlikely if:

- i. Persons are only temporarily in the potential inundation area;
- ii. There are no residences or overnight campsites; and
- iii. The owner has control of access to the potential inundation area and provides an emergency action plan with a process for warning in the event of a dam failure or improper operation of a dam.

b. The Department bases the probable economic, life-line, and intangible loss determinations on the property losses, interruptions of services, and intangible losses that would be likely to result from failure or improper operation of a dam.

The owner of a dam shall demonstrate that a spillway discharge would not result in incremental adverse consequences. In determining whether a spillway discharge of a dam would result in incremental adverse consequences, the Director shall evaluate whether the owner has taken any or all of the following actions: issuing public notice to downstream property owners, complying with flood insurance requirements, adopting emergency action plans, conducting mock flood drills, acquiring flow easements or other acquisitions of real property, or other actions appropriate to safeguard the dam site and flood channel