§ 222.3 Alternative land uses. In some cases land downstream from spillways can be effectively used for purposes other than hydrologic safety. Therefore, the entire cost of these lands may not be an additional project cost. For example, the lands downstream of a spillway may be used for wildlife management essential to project purposes in lieu of other lands suitable for similar purposes at another location.

(h) Procedural guidance. Procedures regarding the application of the principles outlined in the above paragraphs are as follows:

(1) For various flood magnitudes up to the probable maximum flood determine the “with” and “without project” flood conditions downstream of a dam spillway for the following:

(i) Flooded area.
(ii) Flood depth.
(iii) Flood duration.
(iv) Velocities.
(v) Debris and erosion.

(2) Determine the combinations of flood magnitudes and the above flood conditions that could be the most hazardous and/or result in the greatest increase in hazard from “without” to “with project” flood conditions. Designate these combinations of flood magnitude and flood conditions as the critical conditions.

(3) For the critical conditions selected above outline the areas where the project could increase and/or create (impose) one or more of the critical conditions. Areas where spillway flows do not create or increase flood conditions are excluded from further analysis.

(4) Determine where the imposed critical conditions as outlined above would be hazardous and non-hazardous. Non-hazardous areas are defined as those areas where:

(i) Flood depths are maximum of 2 feet in urban and rural areas.
(ii) Flood depths are essentially non-damaging to urban property.
(iii) Flood durations are a maximum of 3 hours in urban areas and 24 hours in agricultural areas.
(iv) Velocities do not exceed 4 feet per second.
(v) Debris and erosion potentials are minimal.

(vi) Imposed flood conditions would be infrequent. That is, the exceedence frequency should be less than 1 percent. Hazardous areas are those where any of the above criteria are exceeded.

(5) Based upon the information developed above and the principles outlined in paragraphs (c) through (f) of this section, decide on the extent of area and estate required for hydrologic safety purposes.

(i) Reporting. Lands to be acquired downstream from spillways and intended purposes will be identified and the cost included in feasibility reports and real estate design memoranda. Additional specific information in support of land acquisition should be provided in Phase I or Phase II general design memoranda (GDM) and dam modernization reports. This information should include topographic maps, area flooded maps, velocities, erosion and debris areas “with” and “without” the project. Real estate boundaries and discussions of items in paragraph (h)(4) are also essential in the GDM’s and dam modernization reports.

[43 FR 35481, Aug. 10, 1978. Redesignated at 60 FR 19851, Apr. 21, 1995]

§ 222.3 Clearances for power and communication lines over reservoirs.

(a) Purpose. This regulation prescribes the minimum vertical clearances to be provided when relocating existing or constructing new power and communication lines over waters of reservoir projects.

(b) Applicability. This regulation applies to all field operating agencies having Civil Works responsibilities.

(c) References. (1) ER 1180–1–1 (Section 73).


(d) Definitions—(1) Design high water level. The design high water level above which clearances are to be provided shall be either: (i) The elevation of the envelope profile of the 50 year flood, or flood series, routed through the reservoir with a full conservation pool after 50 years of sedimentation, or (ii) the elevation of the top of the flood control pool, whichever is higher.
§ 222.4 Reporting earthquake effects.

(a) Purpose. This regulation states policy, defines objectives, assigns functions, and establishes procedures for assuring the structural integrity and operational adequacy of major Civil Works structures following the occurrence of significant earthquakes. It primarily concerns damage surveys following the occurrences of earthquakes.

(b) Applicability. This regulation is applicable to all field operating agencies having Civil Works responsibilities.

(c) References. (1) ER 1110–2–100 (§222.2).
(2) ER 1110–2–1806.
(3) ER 1110–2–8150.
(4) ER 1130–2–419.
(5) State-of-the-Art for Assessing Earthquake Hazards in the United States—WES Miscellaneous Papers S–73–1—Reports 1 thru 14. Available from U.S. Army Engineer Waterways Experiment Station, P.O. Box 631, Vicksburg, Mississippi 39180.

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