Rule 55 Existing Dams and Existing Mine Tailings Impoundment Structures

055. Existing Dams and Existing Mine Tailings Impoundment Structures.

All water storage dams and mine tailings impoundment structures regulated by the department shall be operated and maintained to retain the existing structural dimensions, to resist deformations or movement, and to maintain the hydraulic capacity of the outlet works, spillway, and other discharge features as designed and constructed, or as otherwise required by these rules.

01. Analyses Required. The analyses required by Rule 35 shall apply to all existing water storage dams and mine tailings impoundments when, for good cause, the Director specifically requires the analyses. Impounding structures constructed of other than earth material shall comply with these criteria, as determined by the Director, or with other engineering criteria approved by the Director.

a. Every water storage dam and mine tailings impoundment, unless exempted by the Director, shall have an overflow spillway with a capacity that will pass an inflow design flood of one percent (1%) probability of occurrence (aka Q100) or more, with the reservoir or the impoundment full to the spillway crest while maintaining the freeboard required by Rule Subsection 050.06.

b. The Director may lessen or waive the spillway requirement for water storage dam(s) or mine tailings impoundment structure(s) that demonstrate out-of-stream (off-channel) storage, upon a showing acceptable to the Director.

c. The release capability or discharge capacity can include the combined rates of flow for multiple appurtenances; for example, spillway(s), outlet(s), diversion facilities, or other constructed conveyance features . Approved operating procedures which can be shown to utilize upstream storage, diversion, and reservoir flood routing to reduce flood runoff events may also be considered. The remainder of the required release capacity, if any, may be met by the following:

i. Reconstruction, enlargement or addition of spillway(s), outlet(s), diversion facilities or other constructed conveyance features .

ii. A showing acceptable to the Director that potential failure of the water storage dam or mine tailings impoundment during a flood of the specified magnitude described in Rule Subsection 050.11 would be incrementally small in comparison to the flood being considered, and that the release of reservoir would not substantially increase downstream damages to life and property which are anticipated to result from any natural flood equal to or exceeding that magnitude.

iii.

iv. A showing acceptable to the Director that limiting physical factors unique to the project site exist that prevent construction of a spillway or other release capability mechanisms during a flood of the specified magnitude described in Rule Subsection 050.11, and provided the owner implements

storage operational procedures and/or provides for emergency warning to protect life and property that are approved by the Director.

d. Seismic loads shall be evaluated and applied to water storage dams and mine tailings impoundment structures. The evaluation shall use the maximum ground motion/acceleration generated by the maximum credible earthquake. The Director may accept maximum ground motion/acceleration corresponding to a specified return interval using a probabilistic evaluation of earthquake history using in accordance with

e. The Director may accept existing studies relative to requirements of Rule Subsections 055.01.a. and 055.01.e., if the Director determines the information provided fulfills the requirements of Rule Subsections 055.01.a. and 055.01.e.

f. The Director may allow the owner of an existing dam a compliance period to complete structural modifications or implement other improvements deemed necessary to provide the hydraulic capability determined to be required

g. The Director may allow the owner of an existing water storage dam or mine tailings impoundment a compliance period to complete structural modifications or implement other improvements deemed necessary to resolve seismic stability or safety concerns. .

h. Within thirty (30) days after completing the analyses required in Rule Subsection 055.01.a. or 055.01.g., the owner of an existing dam that is deficient in either case (Rule Subsection 055.01.a. or 055.01.g.) shall file with the Director a schedule outlining the dates work or construction items will be completed.

02. Other Requirements.

a. Routine maintenance items include the following:

i. Eradication of rodents and filling animal burrows.

ii. Removal of vegetation and debris from the dam.

iii. Restoring original dimensions of the dam by the addition of fill material.

iv. Addition of bedding or riprap material which will not increase the height or storage capacity.

v. Repair or replacement of gates, gate stems, seals, valves, lift mechanisms or vent pipes with similar equipment.

vi. Repair or replacement of wingwalls, headwalls or aprons including spalling concrete.

b. The following are not routine maintenance items:

i. Reconstruction of embankment slopes.

ii. Replacement, reconstruction or extension of outlets.

iii. Foundation stabilization.

iv. Filter or drain construction or replacement.

v. Spillway size alteration or modification.

vi. Installation of instrumentation or piezometers.

vii. Release capability modification.

c. Items not specifically described in Rule Subsections 055.02.a. and 055.02.b. will be determined by the Director to be included in one rule or the other upon receipt of a written request from the owner or his representative seeking such a determination.

d. Where riprap is required to prevent erosion and to maintain a stable embankment, pipes, cables, brush, tree growth, logs, or floating debris are not acceptable substitutes for rock riprap and granular bedding material. Dams or portions thereof which are stable without riprap, are not required to have riprap.

e. Upon completion of reconstruction of a dam or feature of a dam included in Rule Subsection 055.02.b., the owner or his engineer shall provide the Director a short written narrative account of all items of work. Record drawings and revised specifications shall be submitted to the Director if the completed project has been substantially changed from the plans and construction specifications originally approved.

f. Upon request, the owner of every dam shall provide his name and address to the Director and shall advise the Director of future changes in ownership. If the owner does not reside in Idaho, the owner shall provide the name and address of the person residing in Idaho who is responsible for the operation, maintenance and repair of the dam.