



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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FROM: Hugh Klein, Geologist/Hydrologist *hjk*

RE: Program Deficiency R645-301-742.222

ANALYSIS

As required under R645-301-742.213, any siltation structure which impounds water will be designed, constructed and maintained in accordance with the impoundment rules (R645-301-743). Within the impoundment rules, R645-301-743.130 states,

Impoundments will include either a combination of principal and emergency spillways or a single spillway as specified in 743.131 which will be designed and constructed to safely pass the design precipitation event or greater event specified in R645-301-743.200 or R645-301-743.300.

R645-301-743.200 specifies the design event for MSHA ponds; R645-301-743.300 specifies the design event for non-MSHA ponds.

The single spillway requirement under R645-301-743.131 sets forth that, The Division may approve a single-open channel spillway that is:

- (743.131.1.) Of nonerodible construction and designed to carry sustained flows; or
- (743.131.2.) Earth-or grass lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.

These rules make it clear that there are guidelines for the type of single spillway an impoundment may utilize.

The 30 CFR's are even more clear on the matter. Under Section 816.49, the following are pertinent:

(8) Spillways. An impoundment shall include either a combination of principal and emergency spillways or a single spillway configured as specified in paragraph (a)(8)(i) of this section, designed and constructed to safely pass the applicable design precipitation event specified in paragraph (a)(8)(ii) of this section, except as set forth in paragraph (c)(2) of this section.

- (i) The regulatory authority may approve a single open-channel spillway that is:
 - (A) Of nonerodible construction and designed to carry sustained flows; or
 - (B) Earth- or grass-lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.
- (ii) Except as specified in paragraph (c)(2) of this section, the required design precipitation event for an impoundment meeting the spillway requirements of paragraph (a)(8) of this section is:
 - (A) For an impoundment meeting the size or other criteria of Sec. 77.216(a) of this title, a 100-year 6-hour event, or greater event as specified by the regulatory authority.
 - (B) For an impoundment not meeting the size or other criteria of Sec. 77.216(a) of this title, a 25-year 6-hour event, or greater event as specified by the regulatory authority.

In the Utah rules, R645-301-742.222 states,

Sedimentation ponds meeting the size or other qualifying criteria of the MSHA, 30 CFR 77.216(a) will comply with all the requirements of that section, and will have a single spillway or principal and emergency spillways that in combination will safely pass a 100-year, 6-hour precipitation event or greater event as demonstrated to be necessary by the Division.

There is no additional verbiage attached to this rule addressing single spillway requirements. The rule can be, and has already been, interpreted to mean an MSHA pond can rely solely on a single spillway to pass the design event and that the

spillway can be a closed conduit. Such an interpretation is in direct conflict with the Utah impoundment rules and the 30 CFR's. As such, this rule does not seem to be as effective as the Federal rules.

RECOMMENDATION

In order to solve this problem, I propose that the following sentence be added to R645-301-742.222: "The Division may approve a single-open channel spillway that is:" In addition, sub-parts 1 and 2 should be added as follows:

- 1) Of nonerodible construction and designed to carry sustained flows; or
- 2) Earth-or grass lined and designed to carry short-term, infrequent flows at non-erosive velocities where sustained flows are not expected.

c: A & B Team Hydros