

**STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION**

_____)
In the Matter of:)
)
)
PROPOSED AMENDMENT)
TO 20.6.2 NMAC (Copper Rule))
)
_____)

No. WQCC 12-01(R)

EXHIBIT SCOTT – D-2

Citation

Utah's dam safety law is contained in Utah Code Sections 73-5a-101 through 702 which were enacted in 1990 and most recently amended in 1993. The statutes and administrative rules are contained in the "State of Utah Statutes and Administrative Rules for Dam Safety, July 1996".

Definitions/Dam Classifications

Utah defines the term *dam* as "any artificial barrier or obstruction, together with appurtenant works, if any, which impounds or diverts water". All dams constructed in the state are subject to regulation unless they impound less than 20 acre-feet of water and do not constitute a threat to human life if they fail. In addition, certain federal dams are exempt from state regulation. (See Utah Code 73-5a-101 and 102.)

High Hazard - those dams which, if they fail, have a high probability of loss of life, extensive economic loss, including damage to critical public utilities.

Moderate Hazard - those dams which, if they fail, have a low probability of causing loss of human life, but would cause appreciable property damage, including damage to public utilities.

Low Hazard - those dams which, if they fail, would cause minimal threat to human life, and economic losses would be minor, or limited to damage sustained by the owner of the structure.

Jurisdiction/Powers of Department

The Utah State Engineer is responsible for the regulation of dams and reservoirs in the state. The state engineer is responsible for protecting public safety, and he may make rules controlling construction, operation, design, maintenance, repair, removal, and abandonment of dams or reservoirs. (See Utah Code 73-5a-101). Various sections of the Code specify that the state engineer may make rules governing such aspects of the dam safety program as: exemptions, the use of independent consultants on design, construction and operation considerations, review and approval of plans, inspection and reporting procedures, revocation of approval, standard operating and emergency action plans. In addition, Utah Code section 73-5a-603 gives the state engineer the power to intervene in emergencies when the owner cannot be found or is unwilling to take appropriate action.

Permit/Approval Process

The permit approval process is addressed in section 73-5s-201 through 205 of the Utah Code. No person may construct, enlarge, repair, alter, remove or abandon a dam without first obtaining written approval from the state engineer. Plans must generally be submitted for approval 90 days before the commencement of the work. Upon the review of the plans according to design criteria specified in the rules and regulations, the state engineer may approve or reject the plans, or may return them for corrections. Dams for which the submission of plans is not required must be approved according to the provisions of section 73-5a-204. Construction must begin within one year after the date of approval unless an extension has been granted.

Regulations R655-10 through R655-12 explain guidelines and standards for the preparation of specifications and plans, the design report, minimum design, and seismic design of dams. Design reports are required for all structures in the high and moderate hazard classifications.

The seismic design criteria listed in R655-11 apply to all structures requiring the submission of a plan.

Inspection Process

Construction inspections are provided for in Utah Code 73-5a-301 through 304. To ensure compliance with approved plans and specifications, the state engineer conducts periodic inspections during construction, enlargement, repair, alteration or removal of a dam. The owner is responsible for conducting necessary tests and disclosing pertinent information, and for providing adequate supervision of the work. The supervising engineer submits weekly progress reports to the state engineer. If the state engineer finds that the work is not being done in compliance with approved plans and specifications, he may order that no further work be done until compliance has been effected and approved, or until the plans are modified and approved. Failure to comply may result in the revocation of approval or orders for the removal of the incomplete structure. Changes to the plans or revocation of approval may also be ordered if dam site conditions differ markedly from those originally planned for or if they would not permit the construction of a safe dam. A final inspection is conducted following construction and prior to the impoundment of water.

The state engineer shall require owners to prepare and submit standard operating plans for their dams, and may require the submission of any other reports regarding dam maintenance and operation.

Utah Code sections 73-5a-501 through 503 sets up a program of periodic maintenance inspections for existing dams. The state engineer must examine dams of significant hazard potential at least once every five years. He is also responsible for setting minimum maintenance and operating standards for dams, and for implementing a program for the investigation of the state's 25 top priority dams each year for the purpose of determining compliance to such minimum standards. These standards are basically the same as the design criteria for new dams, for spillway capacity, seismic stability and static stability.

If, upon inspection, the state engineer finds a deficiency, he may issue an order for engineering studies, repairs, storage limitations, removal or breaching.

R655-12 describes inspections to be conducted jointly by the owner and the state engineer (or their representatives) during the initial filling of newly completed or repaired dams. R655-11 provides details on reporting requirements for construction and maintenance inspections, and for the preparation of "as-constructed" plans.

Owner Non-Compliance/Violations/Penalties

Enforcement and Penalties are addressed in Utah Code 73-5a-701 and 702. After proper notification, the state engineer may issue an order for necessary corrective action and file an action in district court against any person violating any requirement of the dam safety statutes. Civil penalties not to exceed \$5000 per violation may be assessed.

Section 73-5a-503, Reports on Dams and Maintenance Responsibility, provides that the state engineer may revoke the permit and remove the dam of any owner who lets his structure deteriorate and remain in an unsafe condition after the state engineer has ordered repairs.

Emergencies

Section 73-5a-601 requires dam owners to submit emergency action plans, the contents of which shall be determined by rules adopted by the state engineer. The state engineer is authorized in 73-5a-603 to intervene in dam emergencies if the owner cannot be found or fails to take action. Expenses incurred in undertaking emergency operations shall be reimbursed by the owner.

Utah

Regulation 16 requires that in case of an emergency where repairs are necessary to safeguard life and property, the state engineer be notified of proposed repairs and remedial work, and that the work be in compliance with state orders.

Liability

Section 63-30-10 of the Utah Code waives immunity from suit for all state government employees except in the case of several types of government duties and functions, including "intervening during dam emergencies".

Section 73-5a-103 states that the legal obligations and liabilities incident to the ownership or operation of a dam shall rest with the owner or operator.

Oversight

Decisions of the state engineer may be appealed through administrative procedures or judicial action.

Miscellaneous

1. Utah law specifies the qualifications of persons designing dams (73-5a-104), and provides for the hiring of independent consultants if the design, construction or operation warrants an independent review. Section 73-5a-105 allows the state engineer to set the conditions for such a review, determine the requisite qualifications of the consultant, and require the owner to pay all resulting expenses.

R655-10 also addresses the requirement for obtaining a second opinion of critical design topics as part of the approval process.

2. R655-11 describes the purpose of the rules and regulations as "a general guide for dam construction and repair... intended to provide owners with a fairly complete description of the legal and engineering requirements." Since the technical standards listed in the "Rules and Regulations" apply to a hypothetical dam at a specific site, and are thus rather inflexible, the state recognizes that the plans and specifications of most actual dams would be somewhat different than the model described, especially regarding the use of new materials and techniques. The potential owner is expressly warned that the full burden to show adequate protection with the use of unproven materials or methods rests with the applicant.

3. R655-11 covers the procedures involved in the removal of a dam.