

Document Information Form

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MEMO TO COAL FILE.

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June 12, 1980

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Memo to
Coal File

RE: Utah Power & Light Co.
Cottonwood Portal
Stability of Waste Dumps
EXP/015/027

Ralph L. Jerman of Utah Power and Light submitted a report prepared by Rollins, Brown and Gunnell, Inc. Professional Engineers. This report was submitted by Utah Power & Light as part of the abatement requirements of Notice of Violation 80533, Violation Number 4.

The Notice of Violation. Stated under Nature of Violation: "Placing material on the downslope, below a (future) portal site and at the excess rock and earth material deposition area." The provisions of the Federal Regulations violated are 30 CFR Section 717.14 (e) and 30 CFR 211.40 (b). The remedial actions stated on the violation which the Rollins, Brown and Gunnell report addresses are "Submit proposed plans for deposition of excess rock and earth materials to the State Regulatory Authority". Proposed plans must be complete and adequate or must be supplemented or determined by the State Regulatory Authority".

Utah interim regulation MC 717.14 (e) states that other waste materials be stabilized and placed in accordance with MC 717.15. Since this material is overburden material similar to material exposed throughout Cottonwood canyon, the requirements of toxicity in 717.14 (e) are not relevant to this reviewer for the waste material in the Cottonwood Portal piles. Part MC 717.15 discusses disposal of excess rock and earth materials on surface areas. If the material fits the criteria of being produced from an underground mine, then MC 715.15 applies. In the case of Utah Power & Light's Cottonwood Portal "where the volume of this material is small and its chemical and physical characteristics do not pose a threat to either public safety or the environment", the Division should modify the requirements of MC 715.15 in accordance with MC 717.14 (a) (1).

MC 717.14 (a) (1) states that "the Division may permit placement of such material at the site of the faceup as a means of disposing excavated spoil when additional working space is needed to facilitate operations. Such placement of material shall be limited to minimize disturbance of land and to the hydrologic balance. Such fills shall be stabilized with vegetation and shall achieve a minimum static safety factor of 1.5. In no case shall the outslope exceed the angle of repose." Since the Utah's interim regulations do not discuss exploration, the placement of this material assumes application of M-3 part 5 of Utah's Mined Land Reclamation Rules, which apply to ground disturbances not having post-operation use exempting reclamation

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For additional information

allows an exemption
during post operation
in accordance

File

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Memo to
Coal File

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Cottonwood Portal
Stability of Waste Dumps
EXP/015/027

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In reference to Cottonwood Portal, if the Division allows an exemption to reclamation for ground disturbances as having continued post operation use, then modification of the requirements of MC 715.15 in accordance with MC 717.14 (a) (1) is appropriate.

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MC 715.15 (1) is addressed, in that the waste piles are located within the exploration permit area and will be in the permit area for the Cottonwood Portal application.

MC 715.15 (2) is addressed in that to serve as a working space to facilitate operations as described in MC 717.14 (a) (1) this is the most naturally stable area. The Rollins report points out that this area appears to have been stable for a number of years.

MC 715.15 (3) is addressed by the Rollins, Brown, and Gunnell report in that the firm are professional registered engineers using recognized professional standards. Since their report is a study of stability after the fact the piles are not addressed in this way from a preconstruction design perspective.

MC 715.15 (4) is applicable since the Rollins report recognizes that the slope of the three dumps existing throughout the area is 36 degrees which is in excess of 36 percent. Measures such as keyway cuts or rock toe buttresses are not mentioned nor is the foundation of the waste piles addressed in any way. Other than the outcast slopes.

MC 715.15 (5) The Rollins report states that there are no environmental conditions throughout the area which would suggest seepage from the canyon walls into the dump. No mention of underdrains is made.¹

MC 715.15 (6) It is not known whether all organic material was removed prior to construction of the pile.

MC 715.15 (7) It is not known whether the pile was compacted during construction and mention of postmining land use will be addressed in final reclamation of the Cottonwood Portal permit approval.

MC 715.15 (8) It should be stipulated that none of the fill or future fill should obstruct the natural drainage of Cottonwood Canyon and any such existing material should be removed or part (b) of 715.15 would apply.

MC 715.15 (9) It is not known whether a professional specialist certified that the fill was inspected to be constructed as specified in this part.

(1) Flannery decision eliminates underdrain requirements.

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714.14 (a) (1). This part requires that this fill be stabilized with vegetation and achieve a minimum static safety factor of 1.5.. Additionally, the outslope cannot exceed that angle of repose. The Rollins report appears adequate from there conclusions that: "(8) A stability analysis performed for Dump Number 1 using the shear strength parameters obtained from direct shear tests indicates a factor of safety of at least 1.5 for this dump in its existing condition and (9) since the height of the other dumps are no greater than Dump Number 1, it is our conclusion that these two dumps are stable with a factor of safety of at least 1.5 in their existing condition. The division should stipulate that Mr. Rollin's recommendations be completed and that Mr. Rollins should inspect these piles, and certify a 1.5 Static safety factor for each of the piles prior to abatement of the violation. Mr. Rollins should also be made aware of the evidence of a small failure on the outslope of the Number 1 dump. Utah Power & Light should address the vegetation requirement of these regulations, if it has not done so. The recommendations to Utah Power and Light should all be performed as part of the mass stability requirements.


LEE SPENCER
RECLAMATION ENGINEER

LS/lml