



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DCS - PDR
WASTE WM34

NOV 10 1979

MEMORANDUM FOR: Ross A. Scarano, Chief
Uranium Recovery Licensing Branch

FROM: L. S. Person
Uranium Recovery Licensing Branch

SUBJECT: TRIP REPORT ON SITE VISIT AND DAM INSPECTION
AT URAVAN, COLORADO, FOR THE UNION CARBIDE
CORPORATION URAVAN URANIUM PROJECT

Time and Place: Uravan, Colorado, October 30, 1979

Participants: (Meeting at Uravan, October 30, 1979)

NRC and Consultants

L. Person (NRC, WMUR)
J. Kane (NRC, NRR)
J. Nelson (Colorado State
University)
G. Castro (Geotechnical
Engineers, Inc.)

Union Carbide and Consultants

P. Rekemeyer (Union Carbide)
D. Naiduceri (Union Carbide)
G. Schierman (Union Carbide)
J. Frost (Union Carbide)
R. Jones (Union Carbide)
J. Gill (Acres American, Inc.)

State of Colorado Geological Survey

Ray Junge

Purpose: The purpose of this trip was to respond to a notification letter sent to NRC Region IV, dated September 17, 1979, indicating a possible tailings embankment (sloughing) problem and to conduct a site visit in response to the State's asking that NRC provide assistance in certain areas of the State of Colorado's review of Union Carbide's license renewal application with priority given to the evaluation of short and long-term tailings pile stability problems.

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The meeting began as Pete Rekemeyer of Union Carbide Corporation (UCC) asked the specific reason for the NRC visit. Roy Person of NRC then explained the reason for the visit as stated above (see purpose). Roger Jones of UCC then gave Union Carbide's understanding of the sloughing problem in the sludge pond area of tailings embankment No. 2. Pete Rekemeyer pointed out that this sloughing had been reported to the State of Colorado in an earlier letter and that the letter he sent to NRC was a repeat letter fulfilling the recent requirements of 10 CFR 40.26 (c)(2) which had just become effective. Roy Person then explained that a site visit had been arranged through the State of Colorado in order to provide the State with prompt information on the short-term stability problems which NRC had been asked to give priority to in assisting the State in review of Union Carbide's license renewal application.

Union Carbide then explained the corrective action program which they are currently pursuing to increase the stability of tailings pile No. 2, which included the installation of a filter fabric and compaction of the sloughing toe of the dam. Roger Jones explained that the immediate corrective action they are undertaking is merely the first phase of a two-phase program to stabilize a much larger portion of tailings pile No. 2. Roy Person then asked if by pursuing the current corrective procedure (Phase I and Phase II), Union Carbide expected that no other alternative would be considered for tailings disposal which did not include use of the existing embankments. Pete Rekemeyer replied that Union Carbide does not expect this necessarily prompt corrective action (to be completed by December) to foreclose other alternative disposal plans which might have greater worth in the long term. Joe Kane of the NRC then explained to Union Carbide that the use of filter fabric in the construction and repair of dams was not considered to be sound practice by the Army Corps of Engineers. Gonzalo Castro of Geotechnical Engineers, Inc., asked if Union Carbide or their consultants had developed other field information since the Dames & Moore Environmental Report for the Uravan Mill had been completed, or whether they were taking corrective actions based on the Dames & Moore sampling data which was inconclusive. Jim Gill of Acres American, Inc., explained that he was using the data from Dames & Moore to decide on a corrective action but expected that it had to be supplemented with field work that they were currently performing. Pete Rekemeyer explained that there were reports available with piezometer data but that they were not submitted because of the ongoing nature of the data collection. He further stated that NRC would have to send a letter to the State of Colorado before Union Carbide would release any of the reports. The meeting was then recessed to provide time for a visual inspection of the dams, a discussion of Union Carbide's alternative study for tailings management, and an explanation of what input would be required from UCC before NRC could provide the radiological assessment requested by the State of Colorado.

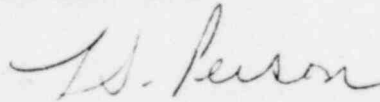
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A close-out meeting was held in the afternoon to discuss NRC's findings, conclusions, and recommendations regarding the immediate stability problem of tailings pile No. 2.

Conclusions and Recommendations

• NRC and their consultants found that:

- 1) Because of the unstable slope of the dam, remedial action is required as soon as possible.
- 2) The use of filter fabric for drain material must be shown to meet Army Corps of Engineers' filter criteria or other gravel type material which meets Army Corps of Engineers' drain material requirements must be substituted.
- 3) Minimum freeboard requirements should be strictly enforced and gauges placed to ensure 150-200 feet distance from the ponded liquid to the edge of the dam.
- 4) The seepage of ponded liquid is high on the slope of tailings pile No. 2 (high phreatic line); and therefore, no further discharge should be allowed before the current remedial action (Phase I) is completed and a full safety evaluation has been done.



L. S. Person
Uranium Recovery Licencing Branch
Division of Waste Management