

TRIP REPORT

27 April 80

40-802

TO: Nuclear Regulatory Commission  
TOPIC: Inspection of Foundation and Pond Area Preparation,  
Morton Ranch Uranium Mill  
United Nuclear Corporation (UNC), Wyoming

REMARKS:

On 22 April 80, a site visit of the main embankment foundation and the impoundment area preparation was performed. Specific comments are as follows:

Key Trench

Approximately 95<sup>+</sup>% of the key trench had been excavated to cemented sandstone. The bottom width (15 feet), design depth (5 feet) and side slopes (1.5H:1V) complied with license guidelines and specifications. However, due to weathering and extensive blowing, a significant quantity of loose sand and clay materials had collected in the bottom of the trench. UNC was directed to clear all loose materials before placement of the clay. It was recommended that removal of the remaining material be supervised by a professional engineer of the consultant (Dames & Moore) and that all work be documented.

One area of concern was noted between Sta 17+00 and Sta 19+00 along the embankment key trench. The existing stratigraphy is comprised of alternate sand and clay layers. The area of concern is where the groundwater intercepts a clay layer. The clay material is saturated and thereby unsuitable for the embankment foundation. The area between Sta 17+00 and Sta 19+00 has been excavated approximately 8 feet below the originally

planned foundation elevation to a firm base. A small pool of water has resulted.

It is planned that to fill the saturated area, the pool would be pumped dry, the remaining saturated clay material would be removed, fill would be immediately placed and compacted, and a clay cap would be placed over the entire area. It was recommended that the entire operation be supervised by a professional engineer. Also, each step of the foundation construction is to be well tested, documented and certified.

#### Dam and Pond Area Preparation

It was noted that the topsoil had been stripped from the embankment pond site and stock piled away from the construction area. Emphasis was placed as to where and how the moisture-sensitive "collapsible" alluvium was stockpiled. The collapsible material had been removed and placed downstream of the embankment. The stockpiled alluvium was being covered with top soil and being prepared for reclamation. The pond area had been stripped to clay and was in preparation for placement of the clay liner.

#### Recommendations

- 1) Inspection of the key trench and embankment foundation area indicated that UNC had complied with all license conditions and/or specifications. Therefore, it is recommended that UNC proceed with the construction of the main embankment.
- 2) It is recommended that a professional engineer supervise, monitor, document, and certify all phases of the construction process.

It is anticipated that the 10% inspection will be necessary on or about 4 June 80. A request for inspection will be issued 6 weeks prior to the inspection by UNC. Presently UNC is operating approximately 10 scrapers,

3 dozers, 2 compactors and various other equipment. Work will initially progress on an eight-hour day, 5 day work week. It is anticipated that 3-4% moisture will have to be added to attain minimum density requirements.

Individuals in attendance during the inspection and/or at the exit interview:

D. E. Routon	UNC	Chief Engineer-Morton Ranch
N. C. Sorenson	UNC	Open Pit Mine Supt.
Steven R. Abt	CSU/NRC	
Harry C. Harrison	USNRC	Arlington, TX
James Zitnik	Dames & Moore	Project Engineer
Thomas Hiscox	UNC	Plant Superintendent - Morton Ranch
C. E. "Chuck" Wolff	UNC	Operations Manager - Morton Ranch
A. S. Chater	UNC	Surface Radiation Officer

Respectfully submitted,

*Steven R. Abt*  
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SRA/rv

cc: Mr. Glen Brown ✓  
Mr. Dan Gillen  
Mr. Bill Staub  
Dr. J. D. Nelson