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PDR
Return 396-55

energy fuels nuclear, inc.
executive offices • suite 900 • three park central • 1515 Arapahoe Street • Denver, Colorado 80202 • (303) 623-8317

July 26, 1982

Mr. Dan Gillen
Uranium Recovery Licensing Branch
U.S. Nuclear Regulatory Commission
7915 Eastern Avenue
Silver Spring, Maryland 20910

Re: Docket No. 40-8681, SUA-1358
Tailings Inspection Report (June 1981-June 1982)

Dear Mr. Gillen:

In accordance with Condition 26(e) of the White Mesa Source Material License, Energy Fuels Nuclear, Inc. ("Energy Fuels") hereby submits a summary report of the results of the regularly scheduled surveillance and inspections of the tailings management system.

Liner. A few incidences of liner exposure due to wave action were noted, but there was no evidence of liner rupture or puncture in any of these cases. Corrective action was taken immediately to re-cover any exposed liner.

Erosion and Gullying. Some erosion due to rainfall occurred in both Cells 1 and 2, and in some cases resulted in liner exposure. Such exposures were corrected within a matter of hours after occurrence, with no resultant damage to the liner. Such erosion was minor and in no way threatened the integrity of the dikes.

Animal Usage. Holes of burrowing rodents have been noted on the downstream side of Dike 3, but burrowing did not appear to be extensive. As a precautionary measure, the burrowing animals were exterminated using a combination of poison bait and suffocating gas. These extermination procedures were carried out in accordance with State of Utah regulations. It is not believed these rodents caused any extensive damage which would affect the integrity of the dike. There has been no evidence of usage of the area by large animals. Apparently, the game-proof fence surrounding the tailings area is accomplishing its purpose of preventing the entry of such animals.

Tailings Deposition. The beaching of tailings occurs east to west and along the north border of Cell 2. Liquid accumulation is confined to the center and south along the

face of the dike. Solids either have remained moist or have crusted with ferrous sulfate so as to prevent the blowing of tailings. To corroborate this position, during and following high winds, air samples were taken in the area along with smears of potentially affected cars and buildings. All of these sample efforts resulted in negative findings as to presence of radioactivity.

Tailings Line. There have been no instances of tailings line rupture resulting in the escape of slurry tailings to areas other than the tailings impoundment.

Freeboard. The required freeboard has been maintained throughout the report period.

Dike Movement. Although not specifically required, Energy Fuels initiated a survey program to determine movement of the dikes during the report period. The report of Johnston-Keogh, Land Surveyors, is attached, and shows no movement of the dikes as of March 1982. Subsequent surveys will be conducted to monitor movement of the dikes.

Summary. The regular, required inspections of the tailings management system demonstrated that the system is working properly, experienced no failures, and exhibited only minor or sporatic erosion of the liner cover. All problems detected were corrected immediately with no resulting damage to the liner. Documentation of these inspections is kept at the White Mesa Mill office and is available for inspection by the NRC.

We trust this information satisfies your requirements for annual reporting. If additional information or clarifications are required, please do not hesitate to contact us.

Sincerely yours,

C.E. Baker
Manager, Regulatory Compliance

CEB/kc
cc: G.W. Grandey
M.D. Vincelette
D.K. Sparling
B.K. Reaveau
H.R. Roberts

I, Muril D. Vincelette, P.E., certify that the information contained herein is accurate and correct. I am personally familiar with the White Mesa Uranium Tailings Containment System, and have personally inspected the system during the report period. I also am acquainted with the personnel who conducted the daily inspections and certify that all field inspectors were able to recognize signs of possible distress or abnormalities in the system.

Muril D. Vincelette
Professional Engineer
License #12481
State of Colorado

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Johnston - Keogh

LAND SURVEYORS

P.O. BOX 38
BLANDING, UTAH 84511

AND ASSOCIATING PROFESSIONALS

TELEPHONE
801-678-2746

March 4, 1982

Mr. Don Sparling, Mill Manager
Energy Fuels Nuclear, Inc.
White Mesa Uranium Millsite
Post Office Box 787
Blanding, Utah 84511

Surveying tailings management area, White Mesa Uranium Millsite, San Juan County, Utah.

Dear Mr. Sparling:

As a result of recent discussions concerning survey work conducted in the tailings management area of the White Mesa Uranium Millsite, I am writing in an attempt to summarize our involvement in the past, and state the condition of the various dikes, slopes and embankments as we have found them, during our field work.

It should be noted from the outset that survey work, for the construction of the tailings management system, has not been conducted on a periodic basis with a fixed time interval for the purpose of updating and maintaining control points; but rather it has been conducted only when requested. Additionally, survey points were never set at any location for the sole purpose of, or with the intent of, monitoring cell dike movement.

The initial survey work, to establish control points for the purpose of constructing the tailings management system, was commenced during July, 1979, at which time both horizontal and vertical control nets were established. The work on each cell or cell dike, progressed generally as follows:

CELL #1

July, 1979 - Horizontal control was set to establish centerline alignment and stationing on cell dike #1. Slope stakes were set to mark bottoms of slopes on the upstream and downstream sides.

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CELL #1 CONTINUED

October, 1979 - Changes in the engineering design of the dikes dictated that the soils be removed to a solid rock layer and that the dikes be built up from those layers to design elevations.

For this reason, after soils were removed, the centerline alignment and stationing of cell dike #1 was re-established and the slope stakes were reset to mark the bottoms of the slopes on the upstream and downstream sides.

November, 1979 - Cell dike #1 had been completed to near design elevation by construction crews. Cut and fill stakes were set at the crest of the dike to aid in the final grading process.

March, 1982 - Cell dike #1 was checked for alignment and grade and it was determined that, based on original control no movement had occurred. Periodic grading of the crest of the dike had taken place in order to maintain drainage and this was taken into consideration when checking crest elevations.

During surveying for the purpose of checking for movement, no cracks or distortions were sighted along the dike or along the slopes of the dike.

We were not involved in the construction of the inner portion of cell #1. This work was apparently completed by other survey crews.

CELL #2

July, 1979 - Horizontal control was set to establish centerline alignment and stationing on cell dike #2. Slope stakes were set to mark bottoms of slopes on the upstream and downstream sides.

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CELL #2 CONTINUED

October, 1979 - Changes in the engineering design of the dikes dictated that the soils be removed to a solid rock layer and that the dikes be built up from those layers to design elevations.

For this reason, after soils were removed, the centerline alignment and stationing of cell dike #2 was re-established and the slope stakes were reset to mark the bottoms of the slopes on the upstream and downstream sides.

November, 1979 - Cell dike #2 had been completed to near design elevation by construction crews. Cut and fill stakes were set at the crest of the dike to aid in the final grading process.

March, 1980 - Horizontal and vertical control was re-established at the crest of cell dike #2 for the purpose of establishing control at cell dike #3. It was determined that, based on original control, no movement had occurred. Periodic grading of the crest of the dike had taken place in order to maintain drainage and this was considered when checking crest elevations.

August, 1981 - Horizontal and vertical control was re-established at the crest of cell dike #2 for the purpose of determining earth quantities in cell #3. It was determined at that time, based on original control, that no movement had occurred. Again, periodic grading on the crest of the dike had been conducted to maintain drainage and this was taken into consideration when crest elevations were checked.

March, 1982 - Cell dike #2 was checked for alignment and elevation and it was determined at that time that no movement had occurred. Periodic grading along the crest of the dike had been conducted and this was a consideration when checking crest elevations.

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CELL #2 CONTINUED

During survey work conducted for the purpose of checking for movement, no cracks or distortions were sighted along the dike or along the slopes of the dike.

We were not involved in the construction of the inner portion of cell #2. This work was apparently completed by other survey crews.

CELL #3

July, 1979 - Horizontal control was set to establish centerline alignment and stationing on cell dike #3. Slope stakes were set to mark bottoms of slopes on the upstream and downstream sides.

November, 1979 - Centerline stakes were reset at cell dike #3.

April, 1980 - Removal of top soil for the construction of cell dike #3 had resulted in the destruction of most of the slope stakes originally set. Slope stakes were reset to mark the bottoms of the slopes on the upstream and the downstream sides.

August, 1981 - Cell dike #3 had been completed to near design elevation by construction crews. Horizontal and vertical control was established along the crest of the dike to aid in the final grading and to be used for control to determine earth quantities in cell #3.

September, 1981 - Survey work was conducted to determine earth quantities in cell #3. Outside perimeters of cell #3 were marked.

March, 1982 - Cell dike #3 was checked for alignment and elevation and it was determined that no movement had occurred since the original control had been set in August, 1981. Periodic grading of the crest of the dike had been conducted to maintain drainage and this was taken into consideration when checking crest elevations.

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In conclusion, during the time spent on the project by our field crews, no cracks, distortions, seepage, sinking or any other unusual conditions were sighted.

As you know, we are currently establishing permanent points along the crests of the existing cell dikes for the purpose of monitoring for movement. These points will offer a much more precise means of checking each dike, as well as aid in future survey work.

Should you require additional information concerning survey work conducted by our firm, please feel free to contact us at your convenience.

Sincerely yours,

Richard L. Johnston,
Land Surveyor

RLJ/ms