

June 9, 2015

Mr. Ken Kalman  
Project Manager  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, MD 20852-2738

Mr. Paul Davis  
Oklahoma Department of Environmental Quality  
707 N. Robinson  
Oklahoma City, OK 73101

Re: Docket No. 70-925; License No. SNM-928  
Road and Spillway Repair

Dear Mr. Kalman:

Substantial rainfall this spring, with particularly heavy rainfall during the month of May, caused damage to the road leading to the Western Alluvial Area, and created concern with the dam for Reservoir #3 (the pond east of Uranium Pond #2). Repair of these impacts was not included as part of the budget for 2015 but the budget does include funding for Task 6, "Unanticipated Work". This letter requests approval to perform repair work using the funding from this task.

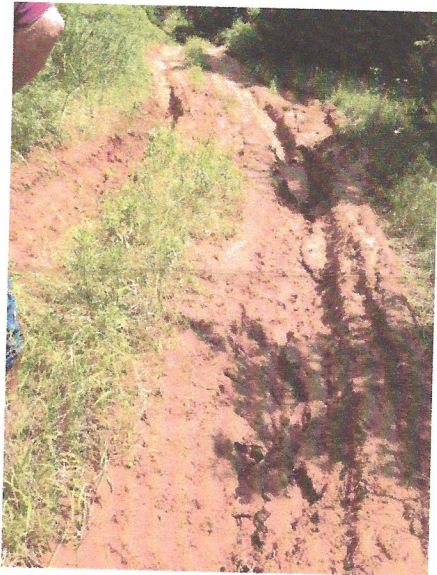
Road to the Western Alluvial Area

A pathway extends from the primary site access road to the Western Alluvial Area. This "road" was never constructed as a road for continual use; it consists of a pathway through the vegetation, delineated by the tracks left by the tires of vehicles that used the same route repeatedly to access the floodplain. Portions of the road are steep and uneven, but most vehicles have no problem negotiating this road. No grading has ever been performed to divert runoff, and rainfall runoff is routed down along the tracks left by vehicles.

The rainfall received in May eroded gullies in the tracks, in places nearly two feet deep (see photo below). The road is now difficult for a four-wheel-drive vehicle to negotiate. A total of approximately 1,100 feet of this road requires rehabilitation. This would involve grading the roadway, installing culverts in two locations to divert runoff across and under the roadway instead of over the roadway, and placement of gravel. As much as is feasible, the roadway should be crowned to divert runoff to the side of the road instead of down along the road.

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### Spillway of Reservoir #3

During a 2010 NRC inspection, significant erosion of the drainage way downstream of the Reservoir #3 spillway was observed. In November 2010, the licensee regraded the channel and lined it with concrete slabs that had been placed in in Subarea G nearby. The following picture shows the repair work that was performed.

The spillway for the pond consists of a low-water crossing. Prior to the repair, the spillway was built to maintain a normal pool elevation of 960 feet above mean sea level (AMSL). A post was set in the pond approximately 50 feet south of the dam (my estimate) with a horizontal bar topped by the number "960" in one-foot tall letters. That horizontal bar was set at 960' AMSL. Short lengths of steel rebar extended horizontally from the post at six-inch intervals so the pool elevation could be easily viewed from the dam.

In the picture below, the spillway is the graveled area just west of the tree's shadow (the picture was taken looking east). In the process of performing this work, surge rock was placed in the spillway and covered with additional gravel, the gray rock in the photo. This raised the elevation of the spillway to at least a foot above the previous spillway elevation.



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The higher spillway was not a problem during the relatively dry years of 2011 through 2014. 2011 through 2014 were so dry that the pool elevation dropped below 957' AMSL. The heavy rains of April and May 2015 filled the pond to the point that there was over a foot of water flowing over the spillway, resulting in less than one foot of freeboard in some locations. The spillway downstream from the dam experienced significant erosion, and much of the soil between and beneath the concrete slabs washed away.

Work needs to be performed to return the spillway to its design elevation of 960 feet. The roadway will need to carry traffic both to construct and to operate the groundwater remediation system in Burial Area #1. The roadway crossing the spillway needs to be improved so traffic doesn't create ruts in the spillway. Environmental Property Management (EPM) proposes to install two culverts in the dam at an elevation of 960' AMSL, place surge rock (6" rock) around and over the culverts, and place gravel on top of the surge rock to provide a road surface that is nearly the same elevation as the dam.

#### Estimated Cost of Repairs

EPM executed a contract with Rick Caruthers Construction, Inc. (Caruthers) in 2014 to clear access to geoprobe locations for the 2014 design investigation. Caruthers was retained because their equipment/operator rates were competitive and Caruthers is working in proximity to the site (reducing mobilization costs). Caruthers' primary business is the construction of locations for oil company exploration and production sites. This involves the construction of access roads and graded/graveled plots for drilling rigs and associated facilities, as well as the production facilities built on those locations. Caruthers is experienced at this kind of work, and is still working in this area.

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Rick Caruthers initially visited the site May 20<sup>th</sup> to estimate the cost to repair the damage to the roadway and reinforce the spillway. EPM requested approval to perform these repairs in an e-mail dated May 29<sup>th</sup>. NRC requested additional detail prior to providing approval to perform the work. This turned out to be fortunate, because significant heavy rainfall between May 20 and June 1 caused significantly more damage to the road leading to the floodplain. Caruthers was called back to the site on June 1 to revise the bid to perform the work. The scope of both road repair and spillway renovation was re-defined based on current site conditions, and intended to provide a more permanent solution.

Caruthers' bids for these two efforts is attached. Caruthers' bid sheets are oriented toward the construction of exploration and production locations, so the bid sheet contains specification for "Lease Road Material" and "Liner Size for Solids Pit". These line items do not apply to the work for which Mr. Caruthers provided these bids.

For road repair, Caruthers measured 1,100 feet of washed out road – nearly a quarter of a mile. Caruthers estimated a need for 425 tons of limestone rock, which can be delivered to the location for \$43/ton. The truck hauling the rock can't get down the hill to place the rock, so a backhoe is needed to place the rock. A dozer will be used both to grade the road with a crown and to dig bar ditches where needed, as well as to grade the rock. A compactor will be used to compact the rock. Equipment rates include the operator, so there are no labor costs. A culvert (tin horn) will be placed at one location where a terrace forces runoff to cross the road. This runoff washed out the gravel that had been placed on the road for the 2014 design investigation. The total cost to repair the road is estimated at \$24,775.00.

The second sheet provides Caruthers' bid for the dam spillway. A pair of trenches will be dug, and two 40-foot long by 30" diameter culverts will extend from the pond to the spillway downstream from the pond. In all, an area approximately 50' by 50' will be regraded and graveled. At the upstream end, the bottom of the culverts will be at approximately 960' AMSL. After placing the culverts, approximately 300 tons of 6" surge rock will be placed around and over the culverts, and approximately 300 tons of 1 ½" limestone rock will be placed over the culverts and extending to the roadway. The total cost to repair the spillway is estimated at \$44,650.00.

The total cost for both repairs is \$69,425.00. These cost estimates are based on measurements taken June 1; additional rainfall could create additional rutting and require more work to repair the damage. I believe it is important to perform these repairs as expeditiously as possible to prevent additional damage, requiring additional work (and cost). EPM requests approval to execute a work order with Caruthers for this work, and to pay for the work from funding provided in Task 6, "Unanticipated Work".



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Sincerely,



Jeff Lux, P.E.  
Project Manager

cc: Gerald Schlapper, US NRC Region IV



**Box 268 - 9th & Ohio  
Cherokee, Oklahoma 73728**

**Office: (580) 596-2341**  
**Fax: (580) 596-2633**

## LOCATION BID SHEET

Company \_\_\_\_\_ **ENVIROMENTAL PROPERTIES**  
Company Representative \_\_\_\_\_ **JEFF LUX**  
Lease Name \_\_\_\_\_  
Location \_\_\_\_\_ County \_\_\_\_\_  
Date Bid **06/03/15** Date to be Ready \_\_\_\_\_

## SPECIFICATIONS:

1. Location Size 1100' X 15' WIDE ROAD
2. Lease Road Size \_\_\_\_\_
3. Location Material 425 TON 1 1/2" LIMESTONE ROCK @ \$43.00 PT = \$ 18,275.00
4. Lease Road Material BACK HOE - 10 HOURS @ \$150.00 = \$ 1,500.00
5. Solids Pit Size BLADE - 10 HOURS @ \$180.00 = \$ 1,800.00
6. Liner Size for Solids Pit PACKER - 8 HOURS @ \$150.00 = \$ 1,200.00
7. Reserve Pit Size \_\_\_\_\_
8. Cattle Guards \_\_\_\_\_
9. Tin Horns 40' OF 22" X 13" TIN HORN = \$ 2,000.00
10. Fencing \_\_\_\_\_
11. Rock Clause **In the event rock is encountered in building location or pit, the equipment used to remove rock will be charged out at hourly rate of equipment being used.**
12. Other \_\_\_\_\_

BID PRICE: \$ 24,775.00

**Bid Submitted by Rick Caruthers Construction, Inc.**

Signed \_\_\_\_\_

**ARUTHERS CONSTRUCTION, Inc.**

**Box 268 - 9th & Ohio  
Cherokee, Oklahoma 73728**

**Office: (580) 596-2341**  
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 Company Representative \_\_\_\_\_ **JEFF LUX**  
 Lease Name \_\_\_\_\_  
 Location \_\_\_\_\_ County \_\_\_\_\_  
 Date Bid **06/03/15** Date to be Ready \_\_\_\_\_

### SPECIFICATIONS:

- POND DAM WORK REWORK SPILLWAY**
1. Location Size \_\_\_\_\_
  2. Lease Road Size \_\_\_\_\_
  3. Location Material **375 TON 6" SURGE ROCK @ \$50.00 PT = \$ 18,750.00**
  4. Lease Road Material **300 TON 1 1/2" LIMESTONE ROCK @ \$43.00 PT = \$ 12,900.00**
  5. Solids Pit Size **TRACK HOE - 12 HOURS @ \$250.00 = \$ 3,000.00**
  6. Liner Size for Solids Pit **BLADE - 10 HOURS @ \$150.00 = \$1,500.00**
  7. Reserve Pit Size **DOZER - 10 HOURS @ \$250.00 = \$ 2,500.00**
  8. Cattle Guards \_\_\_\_\_
  9. Tin Horns **80' OF 30" TIN HORN = \$ 6,000.00**
  10. Fencing \_\_\_\_\_
  11. Rock Clause **In the event rock is encountered in building location or pit, the equipment used to remove rock will be charged out at hourly rate of equipment being used.**
  12. Other \_\_\_\_\_

**BID PRICE:** \$ 44,650.00

**Bid Submitted by Rick Caruthers Construction, Inc.**

Signed \_\_\_\_\_