

Matt G.

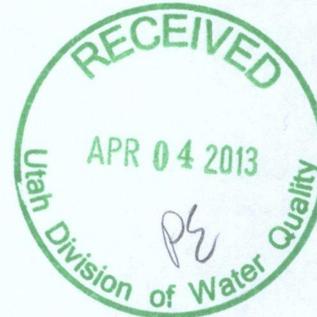


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**VIA EMAIL AND OVERNIGHT DELIVERY**

April 3, 2013

Mr. Walter L. Baker, P.E.  
Director of the Utah Division of Water Quality  
State of Utah Department of Environmental Quality  
195 North 1950 West  
P.O. Box 144870  
Salt Lake City, UT 84114-4870



**Re: Energy Fuels Resources (USA) Inc. Response to Notice of Violation and Order, Docket No. 112-04, UPDES Permit No. UT0023922, Rim Mine**

Dear Mr. Baker:

This letter is in response to the foregoing Notice of Violation and Order (the "NOV and Order") dated February 28, 2013, which Energy Fuels Resources (USA) Inc. ("EFRI") received on March 4, 2013. The Notice lists five violations (the "Violations") of the Rim Mine's (the "Mine's") UPDES permit effluent limits.

This letter addresses the requirements of Utah Code Annotated 19-5-107 and 19-5-111 as specified in the NOV and Order. The stated violations as well as the elements of the NOV and Order are provided in bold, below, followed by EFRI's response.

EFRI Responds as follows:

**Background**

The EFRI UPDES Permit Number UT0023922, effective August 1 2011, specifies the basis for effluent limitations based on the standards for uranium ore mines found in 40 CFR 440.32 and 440.33.

EFRI (formerly Denison Mines and International Uranium and a previous operator Energy Fuels Nuclear Inc.) has operated the Mine intermittently and monitored the discharge from the Mine as applicable during periods of operation under this UPDES permit since June 8, 1995. All analyses have been completed by Energy Laboratories ("EL"). EFRI treats the Mine discharge water to reduce radium 226 concentrations. Treatment has been successfully completed over the periods of operation from 1995 until present. One exceedance of the dissolved radium 226 standard was noted in 2008. No other exceedances of the permit limits were noted in 2009 and most of 2010. In December 2010 and February 2011, exceedances of the permit limit were again noted, followed by a prolonged period of compliance with the permit limits throughout the remainder of 2011. In 2012 four exceedances of the permit limits of radium 226 were noted. The four exceedances in 2012 are the basis for the above-named NOV and Order.

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DWQ-2013-002702

Letter to Walter L. Baker, P.E.

April 3, 2013

Page 2 of 6

As a result of the noncompliant dissolved radium 226 data received during 2012, EFRI initiated a review of the data and an investigation into the sample collection procedures, laboratory analysis methods and procedures and results reported to date for the Mine. Historic data from 2008 through 2012 were reviewed. The data are included in Table 1 attached. It is important to note that prior to 2008, Mine operations were sporadic and intermittent and very little, if any, analytical data were collected for many consecutive years. Several key items were noted during the data review as follows:

- The total radium 226 results range from nondetect ("ND") to 6.5 pCi/L, with an average of 1.68 pCi/L.
- The total radium 226 results have never exceeded the permit limits.
- The dissolved radium 226 results exceed the total radium 226 results in 26 of 45 samples since 2008.
- The 2012 total radium 226 results ranged from 0.37 pCi/L to 2.3 pCi/L. The 2012 total radium 226 results are within the historic data range and are significantly below the highest historic result of 6.5 pCi/L.

Typically a dissolved radium 226 analysis of a water sample is performed by removing the particulates with a filter, then analyzing the filtered water for radium 226. Total radium 226 results must always be greater than or equal to dissolved radium 226 results, because dissolved radium 226 is a subset of total radium 226. As noted in bullet item 3 above, the dissolved radium 226 have results exceeded the total radium 226 results more than 50% of the time since 2008. The discrepancy of the dissolved radium 226 results being greater than the total radium 226 results is indicative of errors in data reporting or sample handling because total radium 226 analysis for water samples include the radium 226 content both dissolved in the water and present in the particulates in the water. EFRI contacted the analytical laboratory to determine if sample switches were occurring or if there was an obvious reason for the anomalous data. The laboratory has not provided a reason for the discrepancy to date.

EFRI investigated the the sample collection procedures, laboratory methods, and filtration methods for the dissolved radium 226. Several key items were noted during the investigation as follows:

- All of the dissolved radium 226 samples were filtered by the laboratory using re-usable filtration apparatus. The laboratory preserves the dissolved radium 226 samples after filtration. No filtration blanks were performed by the laboratory.
- Total radium 226 samples are preserved in the field.
- Several radiochemistry experts were contacted by EFRI to determine if there was any possibility that the dissolved radium 226 results could be greater than the total radium 226 results. The investigation focused on analytical interferences and the potential for sample contamination.
- The radiochemistry experts were in agreement that the total analysis must always be greater than or equal to the dissolved fraction. In addition, the radiochemistry experts noted that the total results are reliable, and the error lies within the dissolved results. The results indicate that the additional filtration step by the laboratory is most likely the cause of the erroneously high dissolved results due to contamination.

### **Conclusions**

Based on a comparison of the 2012 total radium 226 results to historic data, EFRI believes that the total radium 226 results are correct because the 2012 total radium 226 results are consistent with historic values. In contrast, the 2012 dissolved radium 226 results are highly variable, and range from ND to 23 pCi/L. In 2012, the dissolved result has been greater than the total result in 10 out of 11 samples. Given the fact that the dissolved results cannot be higher than the totals since the dissolved results are a subset of the total, EFRI believes that the dissolved data are questionable due to the likelihood that the samples are biased high due to laboratory contamination.

To determine compliance with the permit limits, EFRI compared the total radium 226 results against the dissolved radium 226 permit limit of 3 pCi/L for the daily maximum limit. In all cases in 2012, the total radium 226 results were less than the dissolved permit limit of 3 pCi/L. EFRI believes that the dissolved radium 226 data are incorrect and used the total radium 226 results for comparison to the standard. Using the total radium 226 results for comparison to the dissolved standard shows that the permit limits were met in all of 2012 and there were no permit limit violations or discharges in 2012.

### **Response to NOV and Order**

The violations listed below were noted in the NOV and Order. Each violation is listed in bold followed by EFRI's response.

**1. It is unlawful for any person to discharge a pollutant into waters of the state, unless the discharge is authorized by permit. Utah code Ann. § 19-5-107(1)(a).**

#### **EFRI Response:**

EFRI maintains there has not been a discharge of a pollutant to the waters of the state. As discussed above, the total radium 226 value which EFRI considers to be valid, has not exceeded its required limit, not the dissolved limit. Therefore, the dissolved values, which must be lower than the total values, cannot have exceeded their dissolved permit limits. EFRI respectfully requests DWQ withdraw item 1 of the violations.

**2. It is unlawful for any person to make any discharge not authorized under an existing valid discharge permit. Utah Code Ann. § 19-5-107(3)(a).**

#### **EFRI Response:**

EFRI maintains there has not been an unauthorized discharge. As discussed above, the total radium 226 value which EFRI considers to be valid, has not exceeded its required limit, not the dissolved limit. Therefore, the dissolved values, which must be lower than the total values, cannot have exceeded their dissolved permit limits. EFRI respectfully requests DWQ withdraw item 2 of the violations.

**3. UAC R317-8-7.1(l)(a) for not complying with all conditions of UPDES permit # UT0023922 as noted in C.6.**

Letter to Walter L. Baker, P.E.  
April 3, 2013  
Page 4 of 6

EFRI Response:

EFRI maintains there has not been a discharge that is not in compliance with the permit. As discussed above, the total radium 226 value which EFRI considers to be valid, has not exceeded its required limit, not the dissolved limit. Therefore, the dissolved values, which must be lower than the total values, cannot have exceeded their dissolved permit limits. EFRI respectfully requests DWQ withdraw item 3 of the violations.

**4. Part ID of UPDES Permit # UT0023922 for failure to comply with effluent limits as noted in C.6.**

EFRI Response:

EFRI maintains there has not been a discharge that is not in compliance with effluent limits. As discussed above, the total radium 226 value which EFRI considers to be valid, has not exceeded its required limit, not the dissolved limit. Therefore, the dissolved values, which must be lower than the total values, cannot have exceeded their dissolved permit limits. EFRI respectfully requests DWQ withdraw item 4 of the violations.

**5. UAC R317-2-7.1 for discharging substances that may interfere with water's designated uses, or to cause any of the applicable standards to be violated as noted in C.6.**

EFRI Response:

EFRI maintains there has not been a discharge that violated any standards as noted in C.6. As discussed above, the total radium 226 value which EFRI considers to be valid, has not exceeded its required limit, not the dissolved limit. Therefore, the dissolved values, which must be lower than the total values, cannot have exceeded their dissolved permit limits. EFRI respectfully requests DWQ withdraw item 5 of the violations.

The Part F of the NOV and Order required EFRI to provide the following information to the Director. EFRI responses are as follows:

**1. Immediately initiate all actions necessary to achieve total compliance with all applicable Code.**

EFRI Response:

Due to uranium market conditions, EFRI placed the Mine into temporary cessation status in November 2012. Currently, the mine is not operating and water is not being pumped from underground to the holding ponds. The Mine is not currently discharging. Since the Mine is not operating, pumping or discharging, no immediate actions were required or taken to achieve total compliance at this time. Future actions as discussed in 2.d below will be taken prior to discharge when the Mine becomes operational.

Letter to Walter L. Baker, P.E.  
April 3, 2013  
Page 5 of 6

**2. Describe in detail and submit to the DIRECTOR for review and approval within thirty (30) days of issuance of this NOV a written report including but not limited to:**

**a. Efforts taken to contain the discharge as well as clean up after the event.**

EFRI Response:

EFRI respectfully maintains there has not been a discharge and therefore, containment and clean up are not necessary at this time.

**b. A report of the estimated volumes of the discharge for each violation, which made it to the unnamed dry wash and final condition of the affected areas of the site and any affected downstream areas.**

EFRI Response:

EFRI respectfully maintains there has not been a discharge and therefore the estimated volumes of discharge reaching the unnamed dry wash are zero for each violation

**c. Timeline of events leading up to the discovery of the discharge, efforts and actions taken to contain and eliminate the discharge, and people or agencies contacted in regards to the discharge.**

EFRI Response:

EFRI respectfully maintains there has not been a discharge and therefore no agencies have been contacted.

Efforts have been made to correct the data discrepancy that resulted in the erroneous dissolved radium 226 data. EFRI has contacted another analytical laboratory and will pursue a new contract for analytical services when the Mine becomes operational in the future.

**d. Considerations and corrective steps taken, where appropriate, to reduce, eliminate or prevent re-occurrence of the discharge.**

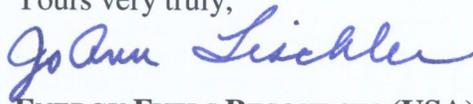
EFRI Response:

EFRI will take appropriate actions to prevent erroneous data in the future prior to the commencement of activities at the Mine. A new laboratory will be used for analyses, split samples will be collected and sent to several laboratories to verify analytical results and sample collection activities will be reviewed and modified as necessary to address any potential data discrepancies. Field sample collection activities will include field filtration rather than laboratory filtration to eliminate the potential for contamination of the samples. Every effort will be made to implement the corrective steps prior to discharge.

Letter to Walter L. Baker, P.E.  
April 3, 2013  
Page 6 of 6

If you have any questions, please contact me at (303) 389-4132.

Yours very truly,



**ENERGY FUELS RESOURCES (USA) INC.**

Jo Ann Tischler

Manager, Compliance and Licensing

cc Matthew Garn DWQ  
Amanda Smith, Office of Attorney General  
Paul McConkie, Office of Attorney General  
Stephanie Gieck, EPA Region VIII  
Dave Ariotti, District Engineer  
Harold R. Roberts  
David C. Frydenlund  
Kathy Weinel

Table 1 - Rim Mine UPDES Data Summary 2008-2012

Date	Radium 226		Ratio of	Total Dissolved	Total Suspended
	Total (pCi/L)	Dissolved (pCi/L)	Dissolved/Total Radium 226	Solids mg/L	Solids mg/L
4/22/2008	1.1	0.3	0.3	798	4
6/23/2008	1.1	NS	NS	635	30
7/16/2008	3.4	0.5	0.15	575	7
12/23/2008	1.5	NS	NS	616	12
1/29/2009	1.7	0.16	0.09	590	4
2/24/2009	1.1	0.23	0.21	433	14
3/24/2009	6.5	5.8	0.89	519	4
4/29/2009	0.7	0.1	0.14	593	8
6/26/2009	1.9	1.8	0.95	588	4
8/27/2009	3.2	1.9	0.59	567	6
10/28/2009	3.9	3.1	0.79	473	4
1/19/2010	0.33	1.1	3.33	511	60
2/9/2010	2.3	2.7	1.17	427	7
3/9/2010	0.8	0.96	1.20	408	4
4/7/2010	1.3	0.78	0.60	361	9
5/12/2010	0.82	1.3	1.59	445	6
6/10/2010	1.2	1.3	1.08	490	10
7/20/2010	2.0	2.4	1.20	495	4
8/30/2010	3.4	1.8	0.53	453	25
9/14/2010	2.3	2.6	1.13	466	22
10/26/2010	2.0	2.5	1.25	478	5
11/10/2010	1.7	1.8	1.06	408	11
12/16/2010	2.1	3.9	1.86	391	5
2/17/2011	3.0	3.6	1.20	383	6
3/23/2011	2.8	2.5	0.89	403	8
4/15/2011	1.5	1.3	0.87	478	8
5/31/2011	0.94	2.8	2.98	288	12
6/15/2011	1.9	1.7	0.89	475	21
7/27/2011	0.23	0.17	0.74	466	30
8/8/2011	0.15	0.18	1.20	519	26
9/19/2011	0.86	0.84	0.98	469	18
10/17/2011	0.86	1.8	2.09	468	12
11/15/2011	2.0	2.5	1.25	456	7
12/15/2011	2.0	2.5	1.25	370	4
1/10/2012	2.3	4.3	1.87	422	4
2/15/2012	2.2	2.8	1.27	417	4
3/12/2012	0.85	1.2	1.41	214	4
4/3/2012	1.1	0.98	0.89	428	6
5/14/2012	1.4	23	16.43	469	6
6/14/2012	0.69	2.2	3.19	557	12
7/25/2012	1.1	2.9	2.64	542	25
8/15/2012	1.1	1.3	1.18	481	19
9/13/2012	0.42	0.44	1.05	444	24
10/9/2012	1.4	7.6	5.43	460	12
11/13/2012	0.37	9.8	26.49	451	4
Average	1.68	2.64	2.24	475.11	11.93

Results are non-detect. Used reporting limit for graphing purposes

Results exceed permit limits

\*\* - no sample was collected in January 2011

\*\*\* - Mine was closed November 2012 and no sample was collected in December 2012

26 out of 45 dissolved Radium 226 results higher than the total Radium 226 results from 2008-2012. Bold text indicates the dissolved result is greater than the total.