



State of Utah

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Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF RADIATION CONTROL

Rusty Lundberg
Director



July 23, 2013

CERTIFIED MAIL
(Return Receipt Requested)

Jo Ann Tischler, Manager, Compliance and Licensing
Energy Fuels Resources (USA) Inc.
225 Union Boulevard
Suite 600
Lakewood, CO 80228

Subject: Energy Fuels Resources (USA) Inc. May 28, 2013 "1st Quarter 2013 Groundwater Monitoring Report, White Mesa Uranium Mill"; and May 10, 2013 "Transmittal of Source Assessment Report for Total Dissolved Solids in MW-29 White Mesa Uranium Mill," **DRC Findings and Notice of Violation**

Dear Ms. Tischler:

The Utah Division of Radiation Control ("DRC") has completed a review of the following three documents submitted by Energy Fuels Resources (USA) Inc. ("EFR").

1. EFR, May 28, 2013, *White Mesa Uranium Mill Groundwater Monitoring Report, 1st Quarter (January through March) 2013*
2. EFR, May 10, 2013, *Notice Pursuant to Part I.G.1(a) Q1, 2013*
3. EFR, May 7, 2013, *Transmittal of Source Assessment Report for Total Dissolved Solids in MW-29 White Mesa Mill Ground Water Discharge Permit UGW370004 Conditional Approval of December 13, 2012 Plan and Time Schedule*, prepared by Intera Geosciences & Engineering

The reviewed documents were submitted per the requirements of the EFR White Mesa Mill Utah Ground Water Discharge Permit, Permit No. UGW370004 ("Permit"). DRC review was conducted to determine EFR compliance with the Permit requirements, and was conducted with consideration of the following ongoing actions related to groundwater compliance monitoring at the White Mesa Uranium Mill:

1. A May 25, 2012 Permit modification request submitted by EFR. The modification request was to document and formalize updated accelerated monitoring notification report agreements, affecting Part I.G.1(a) of the Permit, which were made between EFR and DRC via teleconference. The May 25, 2012 request will be included with the White Mesa

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 LAKEWOOD CO 80228
 PS Form 3800, June 2002 See Reverse for Instructions

Mill Ground Water Permit Renewal (currently in the application review process). The Permit revision is subject to formal public notice and participation requirements prior to final authorization by the Director.

2. An EFR Source Assessment Report (“SAR”), dated October 10, 2012, for previously documented out-of-compliance parameters (multiple parameters), required per Stipulated Consent Agreement, Docket No. UGW12-03. Per DRC review findings as documented in a DRC review memo dated April 23, 2013 and as transmitted via letter from the Director to EFR dated April 25, 2013, specific GWCL parameters for monitoring wells are recommended to be modified (12 instances) in the Permit and GWCL’s are recommended to be removed from the Permit for three up-gradient monitoring wells. All revised GWPL’s are subject to formal public notice and participation requirements prior to final authorization by the Director.
3. An EFR pH Report dated November 9, 2012, which evaluates monitoring wells in out-of-compliance status for pH. The pH Report was required per a DRC Stipulated Consent Agreement, Docket No. UGW12-03. Per DRC review findings as documented in a DRC review memo dated April 23, 2013 and transmitted via letter to EFR from the Director dated April 25, 2013, GWCL’s for pH at all MW series monitoring wells are recommended to be modified in the Permit based on revised statistical evaluation (calculated using field measured pH instead of laboratory measured values). All revised GWPL’s are subject to formal public notice and participation requirements prior to final authorization by the Director.

DRC Findings Regarding the EFR May 7, 2013 Source Assessment Report

A May 7, 2013 Source Assessment Report (May 7, 2013 SAR) for Total Dissolved Solids in Monitoring Well MW-29 was submitted to the Director, received on May 8, 2013 for review and approval. The May 7, 2013 SAR was prepared per a conditional approval letter from the Director, dated May 30, 2013. The conditional approval was for an EFR March 14, 2013 Plan and Time Schedule which was approved with the following conditions: “1. *The SAR for Selenium at groundwater monitoring well MW-31 will include all study elements and report structure of the October 10, 2012 EFR Source Assessment Report (approved by the Director through Stipulated Consent Agreement UGW12-03); including graphs, plots and charts, and; 2. The SAR will be submitted on or before 90 calendar days from EFR receipt of this conditional approval letter.*”

DRC staff requested additional information regarding the May 7, 2013 SAR in order to complete the review, specifically, DRC staff requested a table of the data and dates used for the GWCL statistical evaluation. The data was requested via e-mail on July 1, 2013 and was received via e-mail on July 2, 2013.

DRC Review of the EFR Source Assessment

Current TDS data was compared with Previous Background Groundwater Quality Reports to determine if any geochemical behavior changes in indicator parameters (chloride, sulfate, fluoride and uranium) could be identified. Based on this geochemical evaluation EFR concluded that:

1. *“The results of the geochemical analysis of TDS in MW-29 show that concentrations are not behaving differently than they were at the time of the Background Report. TDS in MW-29 was decreasing (not significantly) at the time of the Background Report. Appendix*

B indicates that at the time of this SAR, the trend line for TDS is still slightly sloping downward ($r=0.02$), however, no real trend is observed,”

2. *“Chloride analysis at the time of the Background Report displayed a decreasing trend that was not significant. At the time of this SAR, chloride is showing a significantly decreasing trend,”*
3. *“Sulfate concentrations are also showing a decreasing trend, however, the trend is not significant,”*
4. *“Uranium concentrations are increasing in MW-29; however, that trend is not identified as being significant in the Mann-Kendall trend analysis. Further, without the increase of other indicator parameters, increasing uranium concentrations can be attributed to natural influences at the site rather than any potential tailings cell seepage.”*

Based on these findings EFR concluded that *“because there is not a rising trend in TDS, and the key indicator parameter chloride is decreasing, the groundwater in MW-29 is not behaving differently than at the time of the Background Report. It is therefore appropriate to revise the GWCL for TDS in MW-29 to better reflect natural background conditions.”*

EFR further concluded that a probable reason for the apparently higher TDS concentrations at well MW-29 is that more data is available now than at the time of the GWCL calculations for the Background Reports. Specifically, the Background Report used eight groundwater sample results whereas the proposed modified GWCL uses twenty-five.

DRC additionally reviewed the time-concentration plots included with the source assessment report (included current plots and plots of data used for the previous background reports) and concurs that the geochemical behavior of indicator parameters does not appear to have changed significantly. Based on DRC staff review of the source assessment it does not appear that the recent TDS GWCL exceedances at monitoring well MW-29 are due to tailings solution release to the groundwater, as shown primarily through the absence of an increase in chloride concentration or a rising chloride concentration trend.

DRC Review of the EFR Statistical Evaluation/Calculations

The current Permit GWCL for TDS in monitoring well MW-29 is 4,400 mg/L; EFR proposes a modified GWCL be included of 4,570 mg/L based on the following data analysis:

1. Shapiro-Wilk Test for Normality
2. Least Squares Regression Trend Analysis
3. Calculation of proposed GWCL's based on the Director approved statistical flow chart (includes criteria based on the number of non-detects in the data set and results of trend analysis).

DRC staff conducted a cross check of the Shapiro-Wilk test of normality and calculation of mean and standard deviation calculations in the source assessment report, included as an attachment to this memo. The cross check was based on the data set ($N = 25$) provided by EFR, as the data set used in the source assessment report, by e-mail dated July 2, 2013.

Per DRC staff review it appears that the data set used was valid, no issues identified, and that the normality test and development of the proposed GWCL based on mean + 2σ was correct and was

in conformance with the Director approved flow chart. It is therefore recommended that the revised GWCL for TDS in monitoring well MW-29, 4,570 mg/L, be included in the Permit renewal. The table below additionally summarizes this information:

Well Number	Parameter	Location	Current GWCL (mg/L)	EFR Proposed GWCL Revision (mg/L)	EFR Background Rationale	EFR Method to Determine GWCL	DRC Finding – Conformance with the Statistical Flow Chart?
MW-29	TDS	Down-Gradient of Cell 2	4,400	4,570	Geochemical Behavior Consistent with Background Reports (more data now available) Chloride and Sulfate indicator parameters are showing a decreasing trend.	Mean + 2 α	Yes

Notice of Violation and Order Docket No.UGW13-05

Notice of Violation and Compliance Order (“NOV/CO”), Docket No. UGW13- 05 is enclosed. The NOV/CO is issued regarding a reporting violation (Facility Out-of-Compliance Status) which was identified during DRC review of the 1st Quarter 2013 Groundwater Monitoring Report.

A written response is required within 30 calendar days after this NOV/CO is signed. The NOV/CO is fully enforceable unless contested in writing within 30 calendar days, as described in the “Contesting this NOV/CO” section of the NOV/CO. Any response or written answer to the NOV/CO should be addressed to Rusty Lundberg, Director, Utah Water Quality Board, 195 North 1950 West, P.O. Box 144850, Salt Lake City, Utah 84114-4850.

If you have questions regarding this letter or the enclosed NOV/CO, please contact Tom Rushing at (801) 536-0080.

Sincerely,



Rusty Lundberg
Director

Enclosure: Notice of Violation and Order, Docket No. UGW13-05

cc: John Hultquist, DRC
Charles Bishop, DRC

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF
ENERGY FUELS RESOURCES (USA) INC.
225 UNION BLVD., SUITE 600
LAKEWOOD CO, 80228

DOCKET NUMBER UGW13-05
NOTICE OF VIOLATION AND
COMPLIANCE ORDER

A. STATUTORY AUTHORITY

This NOTICE OF VIOLATION AND COMPLIANCE ORDER (“NOV/CO”) is issued to ENERGY FUELS RESOURCES (USA) INC. (“EFR”) by the Director of the Utah Division of Radiation Control (hereafter “DIRECTOR”) under the Utah Water Quality Act, Utah Code Ann. §§ 19-5-101 to 19-5-123 (ACT), including sections 19-5-104, -106, -111 and -115. This NOV/CO is also issued in accordance with the Utah Administrative Procedures Act, Utah Code Ann. §§ 63G-4-101 to 63G-4-601 and Administrative Procedure Rules, Utah Administrative Code (UAC) R305-7.

Under the Water Quality Act, Utah Code Title 19, Chapter 5, “DIRECTOR” for purposes of groundwater quality at a facility licensed by and under the jurisdiction of the Division of Radiation Control, means the Director of the Utah Division of Radiation Control. Utah Code Ann. § 19-5-102(6).

The DIRECTOR may enforce rules made by the Water Quality Board through the issuance of orders in accordance with Utah Code Ann. § 19-5-106(2)(d).

B. APPLICABLE STATUTORY AND REGULATORY PROVISIONS

1. The DIRECTOR issued EFR a Utah Ground Water Quality Discharge Permit No. UGW370004 (“Permit”) for the White Mesa Uranium Mill (“Facility”) on March 8, 2005. Said Permit was modified by the DIRECTOR on March 17, 2008, January 20, 2010, June 17, 2010, February 15, 2011, July 14, 2011, August 8, 2012, and was last modified on August 24, 2012.
2. Utah Administrative Code (“UAC”) § R317-6-6.5 “*Notice of Intent to Issue a Ground Water Discharge Permit*” requires the DIRECTOR to publish a notice of intent to approve a ground water permit in a local newspaper and to allow 30 days for public comments.
3. Part I.G.2 of the Permit states: “*out-of-compliance status exists when the concentration of a pollutant in two consecutive samples from a compliance monitoring point exceeds a GWCL in Table 2 of this Permit.*”
4. Part I.G.4 of the Permit states: “*if the facility is out of compliance, the following is required the Permittee shall prepare and submit within 30 calendar days to the Director a plan and a time schedule for assessment of the sources, extent and potential dispersion of the contamination, and an evaluation of potential remedial action to restore and maintain groundwater quality to insure that Permit limits will not be exceeded at the compliance monitoring point and that DMT or BAT will be reestablished.*”

C. FINDINGS OF FACT

1. The Facility receives and processes natural uranium-bearing ores and certain specified alternate feed materials, and possesses byproduct material in the form of uranium waste tailings and other uranium byproduct waste generated by the licensee’s milling operations. The Facility is located

approximately 6 miles south of Blanding, Utah, on a tract of land in Sections 28, 29, 32, and 33, Township 37 South, Range 22 East, Salt Lake Baseline and Meridian, San Juan County, Utah.

2. Several of the Facility monitoring wells (MW-1, MW-2, MW-3, MW-5 and MW-12) have had multiple exceedances of THF concentrations historically. A tetrahydrofuran ("THF") demonstration study work plan (Revision 1.1, dated December 15, 2005) was submitted to DRC by EFR and was subsequently approved. The objective of the study was to determine if the THF exceedances were due to the use of adhesive glues and chemicals during well construction which contained THF. The approval was for a series of pumping tests and was contingent that during the tests the water level in each of the pumped wells must be maintained below all glue joints. If a decreasing concentration trend was shown during the test then it was agreed that the well construction joints would be identified as the likely THF source.
3. Per letter correspondence from the **DIRECTOR** to **EFR** dated December 12, 2007, based on Utah Division of Radiation Control staff review of a June 26, 2007 **EFR** report of laboratory data, *"The results of the study were inconclusive,"* and concludes *"that the source of THF detected in the wells is currently undetermined."*
4. Per DRC review of the **EFR** May 10, 2013 Notice Pursuant to the Permit Part I.G.1(a) "Accelerated Monitoring" and the **EFR** May 28, 2013 1st Quarter Groundwater Monitoring Report it was noted that the THF monitoring results at monitoring well MW-1 exceeded the Permit Ground Water Compliance Limit ("GWCL") for two consecutive accelerated monitoring periods (4th Quarter 2012 and 1st Quarter 2013). Specifically, the Permit lists the THF GWCL for monitoring well MW-1 as 11.5 µg/L. The fourth quarter 2012 THF result was 21.8 µg/L and the first quarter 2013 monitoring result was 12.6 µg/L. Monitoring well MW-1, therefore, entered out-of-compliance status upon **EFR** receipt of the first quarter 2013 laboratory data results for MW-1 as defined by the Permit Part I.G.2.
5. Per the **EFR** May 10, 2013 Notice *"THF has exceeded the GWCL for both the Q4 2012 sampling event and the Q1 2013 sampling event. In the October 10, 2012 SAR, EFR requested the removal of GWCLs for the far upgradient wells (MW-1, MW-18, and MW-19) at the Mill which cannot be impacted by Mill activities. In correspondence dated April 25, 2013, DRC noted (DRC agrees with the justification provided by EFR, that far upgradient wells are not likely to be impacted by current revision of the GWDP). A plan and schedule is not necessary because the exceedance is not caused by Mill activities. Until such time as the GWCL's are removed, the exceedances will continue to be noted and reported."*
6. THF Out of Compliance status at well MW-1 was not addressed in the **EFR** October 10, 2012 SAR. The THF Out of Compliance status at well MW-1 was recently added with the results of the 1st Quarter 2013 monitoring event. Previous studies to determine the source of THF at well MW-1 were inconclusive. THF is not naturally occurring (produced organic solvent) in the environment and is not considered a background monitoring parameter.
7. THF has been detected in **FACILITY** groundwater monitoring wells at concentrations exceeding Permit Ground Water Compliance concentrations at several locations including wells hydraulically downgradient from the tailings cells (MW-3, MW-5, MW-11, and MW-12).
8. A Utah Division of Radiation Control Staff Review Memorandum, dated April 23, 2013, was attached to the **DIRECTOR**'s correspondence letter (dated April 25, 2013) and states *"If future groundwater gradients change such that there is reasonable evidence to suggest that any of the upgradient wells MW-1, MW-18 or MW-19 may be impacted by tailings cell discharge or other*

Mill related activities, then the Director will re-institute GWCL's in the Permit at any or all of the monitoring wells. Continued semi-annual (baseline) monitoring for all contaminants listed in Table 2 of the current Permit (Current - DRC 8/24/2012) will be required to continue for continued assessment of background groundwater quality at monitoring wells MW-1, MW-18 and MW-19."

9. Removal of Permit GWCL's from upgradient monitoring well MW- 1 is pending permit renewal (authorization by the **DIRECTOR**) including required public notice, public participation and comment periods (*UAC § R317-6-6.5*). Therefore, until such time as the Permit is renewed; all listed GWCL's and conditions (e.g. Plan and Time Schedules for Source Assessment of Out-of Compliance Parameters) are applicable and enforceable.

D. VIOLATIONS

Based on the foregoing **FINDINGS OF FACT**, **EFR** is in violation of the following:

1. Part I.G.4.c of the Permit for failing to provide a plan and a time schedule for assessment of the source(s), extent, and potential dispersion of the monitoring well MW-1 THF contamination to the **DIRECTOR**.

E. ORDER

In view of the foregoing **FINDINGS** and **VIOLATIONS**, and pursuant to *Utah Code Annotated Section 19-3-108*, **EFR** is hereby ordered to:

1. Immediately initiate all actions necessary to achieve compliance with all applicable provisions of the Utah Water Quality Act, Ground Water Quality Rules in the Utah Administrative Code, and the Permit.
2. Submit a response to the **DIRECTOR** within 30 calendar days of receipt of this **NOV/CO** to include but not be limited to the following items:
 - a. The root cause of the noncompliance,
 - b. Corrective steps taken or to be taken to prevent re-occurrence of the noncompliance,
 - c. Date when compliance was/or will be achieved.
 - d. A plan and time schedule for assessment of THF out-of-compliance status at monitoring well MW-1 in compliance with the Permit Part I.G.4.c.

F. NOTICE

Compliance with the provisions of this **NOV/CO** is mandatory. Under the Utah Division of Water Quality Penalty Criteria for Civil Settlement Negotiations, Utah Administrative Code § R317-1-8, **EFR's** good faith efforts to comply with this Compliance Order may impact the monetary penalty that could apply in a settlement. Providing false information may subject **EFR** to further civil penalties or criminal fines.

UCA § 19-5-115 provides that a violation of the ACT or a related order may be subject to a civil penalty of up to \$10,000 per day of violation. Under certain circumstances of willfulness or gross negligence, violators may be fined up to \$25,000 per day of violation.

G. CONTESTING THIS NOV/CO

This NOV/CO is effective immediately and shall become final unless your written contest to this NOV/CO is received by the DIRECTOR within thirty (30) calendar days after the date this NOV/CO was signed. See Utah Admin Code R305-7-303. Any further administrative proceedings in this case shall be conducted formally under Utah Code Ann. §§ 63G-4-101 through 63G-4-601.

To contest this NOV/CO, you must respond in writing and must comply with Utah Admin Code R305-7-303, which requires, among other things, that you state you're factual and legal reasons for disagreeing with the Notice of Violation or Compliance Order, and that you state the action that you would like the agency to take.

A response contesting this NOV/CO must be received by the DIRECTOR within 30 calendar days after the date this NOV/CO was signed.

(Mailing address)

Rusty Lundberg, Director
Utah Division of Radiation Control
195 North 1950 West
P.O. Box 144850
Salt Lake City, UT 84114-4850

(Address for by-hand or overnight delivery)

Rusty Lundberg, Director
Utah Division of Radiation Control
195 North 1950 West
Salt Lake City UT, 84116

You will not be allowed to contest this NOV/CO in court or in any other forum if you do not first contest the NOV/CO as described above.

Signed this 23rd day of July, 2013

UTAH DIVISION OF RADIATION CONTROL


Rusty Lundberg, Director