

March 18, 2014

MEMORANDUM TO: Bill Von Till, Chief
Decommissioning and Uranium Recovery
Licensing Directorate
Uranium Recovery Licensing Branch
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

FROM: Ron Linton, Project Manager **R/A**
Decommissioning and Uranium Recovery
Licensing Directorate
Uranium Recovery Licensing Branch
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
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SUBJECT: SUMMARY OF FEBRUARY 24, 2014 MEETING WITH URANERZ
ENERGY CORPORATION

On February 24, 2014, U.S. Nuclear Regulatory Commission (NRC) staff met with representatives of the Uranerz Energy Corporation to discuss licensing issues related to the Nichols Ranch ISR Project. The associated meeting notice was issued on February 14, 2014, and is available at NRC's Agencywide Documents Access and Management System (ADAMS) Accession No. ML14045A144. A summary of the meeting is enclosed.

Docket No: 040-09067

Enclosure: Meeting Summary

cc: Meeting Attendees

CONTACT: Ron Linton, FSME/DWMEP
(301) 415-7777

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Office	DWMEP	DWMEP	DWMEP	DWMEP	DWMEP
Name	RLinton	SAchten	JWebb	RBurrows	RLinton
Date	03/10 /14	03/11/14	03/18/14	03/18/14	03/18/14

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MEETING SUMMARY

DATE: February 24, 2014

TIME: 10:00 a.m. – 12:00 noon, EST

PLACE: U.S. Nuclear Regulatory Commission
Two White Flint North, Rockville, Maryland
Room T-8C5

PURPOSE: To discuss licensing issues related to the Nichols Ranch Project.

ATTENDEES: See Attached Attendee List

BACKGROUND:

The purpose of this meeting was for Uranerz Energy Corporation (Uranerz or the licensee) and U.S. Nuclear Regulatory Commission (NRC) staff to discuss licensing issues related to the licensee, Nichols Ranch Project.

The meeting and teleconference started at 10:00 a.m. Eastern time in room T-8C5. An opening statement was presented by Ron Linton, NRC. Participants introduced themselves and signed the attendance sheet.

DISCUSSION:

The license conditions (LC) in NRC Materials License SUA-1597 were discussed in the following order:

LC 12.7

Staff reported that the submittal for demonstrating long-term representativeness of meteorology data has been submitted to an NRC staff statistician. Results are expected within approximately one week. No other questions were asked.

LC 12.8

At the meeting, Uranerz submitted Draft Figure 2-25, Nichols Ranch Unit Radon/Gamma/Air. Uranerz stated that they will update this drawing and send NRC the revised drawing.

Due to the timeframe involved, NRC staff told Uranerz that staff's review of the submittal is not complete. NRC staff provided Uranerz with its preliminary review of the licensee's February 19, 2014, submittal (ML14051A113) addressing LC 12.8. Below is a summary of this discussion.

Overall, NRC staff noted that the responses to LC 12.8(A) – (D) were not consistent and stated that Uranerz should view all parts of this license condition as they relate to each other.

Enclosure

12A) Uranerz proposed using their environmental monitoring stations and comparing design objectives with these results. NRC staff stated that Uranerz did not address the license condition. Specifically, the method proposed by Uranerz does not provide the information required by 10 CFR 40.65. NRC staff referred Uranerz to NRC's presentation to the National Mining Association (<http://www.nrc.gov/materials/uranium-recovery/public-meetings/ur-workshops/rburrows-nrc.pdf>) which addressed this topic. Two specific problems associated the Uranerz submittal are as follows:

- 1 – Results from environmental monitoring stations are reported in terms of concentration (e.g., picoCuries per Liter). 10 CFR 40.65 requires the reporting of quantities (e.g., Curies) of radioactive materials released to unrestricted areas.
- 2 – The environmental monitoring stations referred to in Uranerz's response to LC 12.8(A) provide information on environmental concentrations at the monitor locations but do not provide information on all point and diffuse sources from its operations such as the central processing plant (CPP) and well houses.

NRC staff suggested incorporating the proposed Effluent Sampling Plan from Attachment 1 of the February 19, 2014 submittal (ML14051A113) into the response to LC 12.8(A).

Uranerz understood the need to determine quantities of radioactive materials emanating from all sources including well houses and wellfields. Uranerz discussed options for calculating quantities of radon from the Nichols Ranch Central Processing Plant and well houses using its proposed monitoring system. NRC staff stated that it had no guidance for determining quantities of radon released generally from the wellfield but that this source component must still be addressed.

12B) Uranerz's submittal indicated that recently constructed workforce housing is considered to be the location for the maximally exposed member of the public, referred to as off shift employees.

NRC staff stated that it needs an evaluation and comparison of all potential members of the public. This evaluation should utilize projected radioactive material concentrations and time spent in the area during a typical year in order for NRC staff to draw a conclusion.

NRC staff also stressed that Uranerz needs to make an ongoing commitment to review and evaluate the maximally exposed member of the public and describe how it will do this with its monitoring data.

NRC staff stated that it appeared that Uranerz had some confusion between determining plant effluent and making a point estimate of dose and that these issues should be fully understood before resubmitting a response.

Uranerz stated that it understood that dose to members of the public had to be evaluated every year.

12C) NRC staff discussed Uranerz's proposed program for factoring radon progeny into public dose assessments.

NRC staff noted that the first paragraph of Uranerz's response to LC 12.8(C) was not consistent with its responses in the second paragraph of this response, LC 12.8(B), or LC 12.8(D). The inconsistencies involve the method that Uranerz will use to demonstrate dose to members of the public, consistent with 10 CFR 20.1302, using either effluent concentrations or performing a dose assessment.

NRC staff discussed the following issues with Uranerz in regards to its response to LC 12.8(C):

- 1 – Radon measurements at the site boundary can't be used for comparison to 10 CFR 20, Appendix B, Table 2, to determine public dose compliance
- 2 – The derived airborne concentration (10 CFR 20, Appendix B, Table 1) for Rn-222 is used or occupational dose assessment. The correct value to use for public dose assessment is the Effluent Concentrations in 10 CFR 20, Appendix B, Table 2. For this case, the value for Rn-222 with daughters present is the correct value.

12D) NRC staff discussed Uranerz's plan for accounting or occupational dose throughout its entire licensed area.

NRC staff is unclear exactly how Uranerz employees will be assigned occupational dose based on radioactive material concentrations and exposure times in various areas of the licensee's facility. Uranerz stated that they will make their methodology more clear.

LC 12.9

NRC staff had the following questions on Uranerz's proposed Alpha/Beta/Gamma survey program:

- 1 – NRC staff asked the licensee to clarify the action levels in proper units (e.g., dpm/100 cm²)
- 2 – NRC staff asked the licensee to clarify why the action levels are different for alpha and beta/gamma
- 3 – NRC staff reminded the licensee that LC 9.6 requires them to follow the Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material (the Guidelines). In addition to numerical release limits, the Guidelines contain other requirements, such as making a reasonable effort to eliminate residual contamination.
- 4 – NRC staff asked Uranerz to demonstrate that they can meet the release limit of 250 dpm alpha/100 cm².
- 5 – NRC staff asked the licensee to address in their response if they will be using any form of shoe washing prior to leaving potentially contaminated areas and to evaluate

their ability to detect alpha and beta contamination. Uranerz replied that they would not use any washing methods for shoes.

6 – NRC staff asked Uranerz to evaluate swipe efficiencies (i.e., what percent of contamination is removed in a single swipe) in their response and how they will incorporate this in their radiation safety program.

7 – NRC staff asked Uranerz to evaluate surface efficiencies in its calculations of minimum detectable concentrations, consistent with NUREG-1507, and how surface efficiencies will be incorporated in its radiation safety program.

LC 12.10

NRC staff reviewed data submitted in the July 2012 through December 2012 semi-annual report (ML13037A310) and the January 2013 through June 2013 semi-annual report (ML13205A199). The license submitted monitoring results to the NRC that included sampling of domestic and livestock wells that are located within two kilometers of the Nichols Ranch and Hank Unit. The data is complete and no further information is required from the licensee.

LC 12.11

NRC staff reviewed the List of Radiation Instruments in a letter to the NRC dated October 3, 2013 (ML13282A301). The list included three tables that covered air sampling, lower limits of detection, and contamination control. The tables provided manufacturer, model numbers, range, planned use, instrument description, and lower limit of detection (which also included the equation and input parameters for the equations). The lower limits of detection were 10% of the regulatory limit for all instrumentation for static measurements and NRC staff found this acceptable. NRC pointed out that for instrumentation that may be used for scanning, the lower limit of detection or minimal detectable activity may be higher but the additional input parameters, such as scan speed or surface efficiency, can be included in the standard operating procedures and be evaluated at the time of inspection. The data is complete and no further information is required from the licensee.

LC 12.12

NRC staff reviewed the regulatory requirements and guidance for the submission of the survey plan. NRC staff determined that the survey plan is an important section of the decommissioning plan and should be included with the submission of the decommissioning plan. According to regulations, the submission of the decommissioning plan is not required until 12 months after notifying the NRC of terminating a full or partial operation of the facility consistent with the NRC timeliness rule for license termination. Staff will likely remove the pre-operational license condition and merge LC 12.12 with LC 10.12.

LC 12.13

NRC staff reviewed the updated Quality Assurance Program (QAP) submitted on February 13, 2014 (ML14050A023). NRC staff noted that the licensee committed in its license application to implementing a QAP consistent with NRC Regulatory Guide 4.15 "Quality Assurance for

Radiological Monitoring Programs (Normal Operations) – Effluent Streams and the Environment," Revision 1, 1979. Staff noted that Regulatory Guide 4.15 has been revised, and Revision 2 is the most current version. Staff will likely remove the pre-operational license condition and add a LC to SUA-1597, Section 10, requiring the licensee to maintain a QAP consistent with the latest revision of Regulatory Guide 4.15. The submitted QAP was reviewed by staff and no further information is required from the licensee.

LC 12.14

The NRC staff reviewed the licensees written procedures to control production fluids and maintain and inward hydraulic gradient if a disposal well becomes inoperable. The procedures were acceptable and no further information is required from the licensee.

PUBLIC DISCUSSION:

There were no questions from the public.

ACTION ITEMS:

NRC will provide a detailed meeting summary of the issues discussed.

The meeting and teleconference ended at approximately 12:05 p.m. Eastern standard time.

ATTACHMENTS:

1. Attendee List
2. Draft Figure 2-25



MEETING ATTENDEES

Date: February 24, 2014

Topic: Discuss Uranerz Energy Corp's Nichols Ranch ISR Project Licensing issues

NAME	AFFILIATION
Ron Linton	NRC
Ron Burrows	NRC
Duane Schmidt	NRC
Jim Webb	NRC
Elise A. Striz	NRC
Bill vonTill	NRC
Robert Evans	NRC
Paul Goranson	Uranerz
Mike Thomas	Uranerz
Chris Pugsley	Thompson & Pugsley
Jessica Mote	Uranerz
Lindsey Streeter	Uranerz
Ryan Schierman	Uranerz
Aaron Linard	Uranerz
Beth Hooper	Superior Mineral Resources LLC
John Cash	Ur-Energy USA, Inc.
Jay Mackie	Excalibur Industries, Inc.
Jim Hecimovich	Superior Mineral Resources LLC
Greg Lindahl	Superior Mineral Resources LLC

