



July 30, 2015

Attn: Document Control Desk
Drew Persinko, Deputy Director
Uranium Recovery Licensing Branch
Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental Management Programs
U.S. Nuclear Regulatory Commission
Two White Flint North, MS T8F5
11545 Rockville Pike
Rockville, MD 20852

Re: Uranerz Response to NRC Request for Additional Information, July 14, 2015, Proposal to Train Plant Operators and other Suitable Personnel to Perform Daily Inspections, Nichols Ranch Project, Materials License SUA-1597, Campbell and Johnson Counties, Wyoming, Submission Incomplete (TAC J00727)

Dear Mr. Persinko,

By letter dated July 14, 2015 Uranerz Energy Corporation (Uranerz) received the Nuclear Regulatory Commission (NRC) staff review and request for additional information regarding the proposed program to train plant operators and other suitable personnel to perform daily radiation safety inspections. Uranerz has enclosed responses to the request. Pages related to the proposal were revised as a result of responses, therefore the revised pages are enclosed along with an index of change for insertion instruction.

If you have any questions regarding the open issue text revision submittal, please contact me at 307-265-8900 or by email at: mthomas@energyfuels.com.

Sincerely,

A handwritten signature in cursive script that reads "Dawn Kalkman for Mike Thomas".

Mike Thomas
Vice President Regulatory and Public Affairs
Uranerz Energy Corporation

MT/dk

cc: David Brown, NRC, via email
Ron Linton, NRC, via email

Attachments

*Designated as original
by PM DDB*

NMSS01

**Response to NRC Request for Additional Information
Proposal to Train Plant Operators and Other Suitable Personnel to Perform Daily Inspections
Materials License SUE-1597; Docket No. 040-09067**

The following is Uranerz additional information as NRC requested per letter dated July 14, 2015 for the purpose of completing its review of Uranerz May 20, 2015, request to include a program to train plan operators and other suitable personnel (i.e. "designees") to perform daily radiation safety inspections.

1. Request for Additional Information

- a. Please provide a completed NRC form 313 associated with the May 20, 2015 request.

Uranerz Response: A completed form 313 is enclosed.

- b. Provide draft language for amending LC 9.7 for approval of this request for consideration by NRC staff. A response to RAI 1.b. is optional.

Uranerz Response: The following language is proposed.

The licensee shall follow the guidance set forth in NRC, Regulatory Guides 8.22, "Bioassay at Uranium Mills" (as revised), and 8.30, "Health Physics Surveys in Uranium Recovery Facilities" (as revised), or NRC-approved equivalent.

The licensee shall follow the guidance set forth in Regulatory Guide 8.31, "Information Relevant to Ensuring That Occupational Radiation Exposures at Uranium Recovery Facilities Will Be as Low as Is Reasonably Achievable" (as revised), or NRC-approved equivalent.

The licensee may identify qualified designee(s) to perform daily inspections in the absence of the RSO(s) and radiation safety technician(s) (RST). The qualified designee(s) will have health physics training as specified in the licensee's training program. The qualified designee(s) will only perform the inspections on weekends or holidays when the RSO(s) or RST(s) are not present for no more than three (3) consecutive days per week except when a holiday falls on a Monday or Thanksgiving (4 days). Reports from designees will be reviewed by the RSO(s) or RST(s) by the close of business on the first day the RSO or RST returns to work. If the RSO or RST cannot review documents and perform the walk-through for more than three (3) days (e.g. holidays or adverse weather events), the RSO or RST will call the designee and review previous un-reviewed reports and current operational conditions over the phone.

2. Request for Additional Information

Revise the proposed changes using the current revision of the Technical Report.

Uranerz Response: The revised pages from the Technical Report are from the September 15, 2010 submittal (ADAMS ML102650539). This 2010 submittal is described in License Condition 9.2.

3. Request for Additional Information

Clarify the description of daily inspections in proposed revisions to Sections 5.3.2 and 5.4 of the Technical Report by clearly stating the individuals who are responsible for daily inspections, such as by defining “radiation safety staff representatives” to include only RSOs and RSTs, or by simply stating that only RSOs and RSTs and qualified designees may perform daily inspections.

Uranerz Response: For clarification “Radiation safety staff representatives” has been removed and replaced with the descriptions of RSOs and RSTs and qualified designees in Sections 5.3.2 and 5.4. The revised pages are enclosed.

4. Request for Additional Information

Remove “designee” in the description of weekly inspections in proposed changes to Section 5.3.2, to be consistent with commitments made elsewhere in the proposal (e.g., proposed p. TR-214a) and Regulatory Position C.2.3.1. of Regulatory Guide 8.31, “Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Recovery Facilities Will Be As Low As is Reasonably Achievable.”

Uranerz Response: The word “designee” has been removed from Section 5.3.2. The revised pages are enclosed.

5. Request for Additional Information

- a. Clarify that the RSO will determine who is qualified to be a candidate for training as a designee.

Uranerz Response: Language has been added clarifying that the RSO will determine who is qualified for training as a designee. The revised pages are enclosed.

- b. Revise the training program to state that a trainee will complete no less than 4 supervised daily inspection before being evaluated by the RSO or RST as proficient.

Uranerz Response: The training program has been revised to account for no less than 4 supervised daily inspections. The revised pages are enclosed.

6. Request for Additional Information

Revise the description of the physical scope of the daily inspection to include the Hank Unit satellite facility and other work and storage areas with the scope of the daily inspection.

Uranerz Response: The scope of the daily inspection has been revised to include satellite facilities and other work and storage areas. The revised pages are enclosed.

7. Request for Additional Information

Revise the description of the designee program to be consistent with staff positions on designee programs, including: (1) the duration that a designee may perform daily inspection; and (2) the timeliness of RSO or RST reviews of designee reports.

Uranerz Response: Uranerz is a 24/7 operation; however, the standard work week consists of a 4 day week, Monday through Thursday, so a designee would perform the daily inspections Friday through Sunday. Should Uranerz change to a five day work week, the change would be evaluated and the duration for designee performed daily inspections would be updated in the license application. The program has been revised to reflect the duration and RSO/RST review times. The revised pages are enclosed.

Do not make corrections to this form after printing. Forms bearing strikeouts, ink changes, etc will not be accepted.

INDEX SHEET FOR MINE PERMIT AMENDMENTS OR REVISIONS

MINE COMPANY NAME: Uranerz Energy Corporation
MINE NAME: Nichols Ranch ISR Project

Page 1 of 1
Date July 30, 2015
TAC J00727
License NO.: SUA-1597

Statement: I, Michael P. Thomas, an authorized representative of Uranerz Energy Corporation declare that only the items listed on this and all consecutively numbered Index Sheets are intended as revisions to the current permit document. In the event that other changes inadvertently occurred due to this revision, those unintentional alterations will not be considered approved. Please initial and date. Downfallman for Mike Thomas

NOTES:

- 1) Include all revision or change elements and a brief description of or reason for each revision element.
- 2) List all revision or change elements in sequence by volume number; number index sheets sequentially as needed.

Volume Number	Page, Map or other Permit Entry to be REMOVED	Page, Map or other Permit Entry to be ADDED	Description of Change
Volume I	Table of Contents, pg. TR-vi	Table of Contents, pg. TR-vi	Page TR-vi has been revised with the addition of Section 5.4.1 Qualifications and Requirements for Conducting Daily Inspections
Volume I	Chapter 5, Sections 5.3.2 and 5.4, pgs. TR-212 through TR-215	Chapter 5, Sections 5.3.2 and 5.4, and 5.4.1, pgs. TR-212 through TR-215	Section 5.3.2 and 5.4 have been revised and Section 5.4.1 has been added.
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5.3.2 Inspections

Inspections will be conducted periodically, as described below, of the wellfield and process areas. The purpose of the inspections will be to ensure that radiation protection, monitoring, and safety requirements are being followed and/or are properly functioning. The inspections will be performed and documented in accordance with a written procedure.

Daily

RSO's, RST's and qualified designees will conduct a daily walkthrough inspection of the process and storage areas. The inspection will provide for a visual survey of proper implementation of procedures, housekeeping, and contamination control.

Weekly

A RSO will complete a weekly inspection of the site. The scope of the inspection will include radiation safety practices, procedural compliance, environmental monitoring, and environmental conditions at the site.

Monthly

The ESH Manager will provide to site management a written summary of the conditions of radiation safety and environmental monitoring. The report will include summaries of personnel monitoring, radiation and contamination surveys, trends important to ALARA considerations, a general assessment of compliance, and a description of problems with recommendations for corrective action.

5.4 QUALIFICATIONS FOR PERSONNEL CONDUCTING THE RADIATION SAFETY PROGRAM

The qualifications are described below for personnel assigned responsibility for developing, conducting, and administering the radiation safety program. The qualifications will be consistent with NRC Regulatory Guide 8.31, "Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Mills Will Be As Low As Is Reasonably Achievable," Revision 1, 2002 at Section 2.4. Additional information regarding the qualifications and requirements for people conducting the daily inspection are contained in section 5.4.1.

Radiation Safety Officer

The RSO should have the following education, training, and experience:

Education: A bachelor's degree in the physical sciences, industrial hygiene, or engineering from an accredited college or university, or an equivalent combination of training and relevant experience in radiation safety. Two years of relevant experience may be considered equivalent to one year of academic study.

Radiation Safety Experience: At least one year of work experience relevant to uranium recovery operations in applied radiation safety, industrial hygiene, or similar work. This experience should involve actually working with radiation detection and measurement equipment, and administrative duties.

Specialized Training: At least four weeks of specialized classroom training in radiation safety applicable to uranium recovery. Refresher training on relevant radiation safety matters should be completed every two years.

Specialized Knowledge: Knowledge of the proper application and use of all radiation safety equipment used at the facility, the analytical procedures used for radiological sampling and monitoring, methodologies used to calculate personnel exposure to uranium and its daughters, an understanding of the processes and equipment used at the facility, and how the radiation hazards are generated and controlled.

Radiation Safety Technician

The radiation safety technician should have one of the following combinations of education, training, and experience:

Education: An associate degree or two or more years of study in the physical sciences, engineering, or a health-related field;

Training: At least four weeks of generalized training (up to two weeks may be on-the-job training) in radiation safety applicable to uranium recovery facilities;

Experience: One year of work experience using sampling and analytical laboratory procedures that involve radiation safety, industrial hygiene, or industrial safety measures to be applied at a uranium recovery facility;

Or

Education: A high school diploma;

Training: A total of three months of specialized training (up to one month may be on-the-job training) in radiation safety relevant to uranium recovery facilities;

Experience: Two years of relevant work experience in applied radiation safety.

The radiation safety technician should demonstrate a working knowledge of the proper operation of radiation safety instruments used in the facility, surveying and sampling techniques, and personnel dosimetry requirements.

5.4.1 Qualifications and Requirements for Conducting Daily Inspections

Qualified Designee

A qualified designee will only be responsible for performing the daily walkthrough visual inspections in accordance with section 5.3.2. Qualified designees will only perform the inspections on weekends or holidays when the RSO's or RST's are not present; for no more than 3 consecutive days per week except when a holiday falls on a Monday or Thanksgiving (4 days). Reports from designees will be reviewed by the RSO's or RST's by the close of business on the first day the RSO or RST returns to work. If the RSO or RST cannot review documents and perform the walk-through for more than 3 days (e.g. holidays or adverse weather events); the RSO or RST will call the designee and review previous un-reviewed reports and current operational conditions over the phone.

The RSO will determine who is qualified to be a candidate for training as a designee. Because of their knowledge of the plant area, the process, and associated equipment such as pumps, sumps, and the plant ventilation system, plant operators will primarily be chosen for training in completing daily radiation safety inspections. Other suitable personnel, such as environmental technicians, safety officers, wellfield operators, or other supervisors may also be trained as a qualified designee if they meet the education and experience requirements.

Qualified designees will be trained to perform daily inspections of operational areas as is required in Regulatory Guide 8.31. This includes the processing plant, satellite facilities, and other work and storage areas. Designees will also be trained to observe whether staff are performing work while wearing appropriate PPE, specifically PPE related to radiation hazards, such as rubber gloves or protective coveralls. Designees will look for leaks and spills and verify proper operations of ventilation systems. They will observe if radiological postings are in good working order and will correct minor deficiencies as trained. For example, if a radiation area sign has fallen off of a rope they will be trained to replace the posting or if a barrier has fallen down they will be trained to properly place the barrier upright. In an instance where they cannot fix the situation, such as a sign has blown away and they cannot find and replace the sign, they will be trained to notify the RSO's or RST's who will correct the discrepancy as soon as is practicable. Designees will not be trained to operate radiation detecting instruments (besides personnel scanning stations) and will not be trained to move or post new radiological areas. As operational areas expand additional items will be added to the inspection details through the SERP process.

In the case where a problem or question arises during the daily inspection, RSO's or RST's will be available by phone to direct any additional action that may be required. The RSO or RST would then direct the designee on appropriate actions or they may choose to go to the site to assist with the corrective action if they deem necessary. Additionally, all employees are trained as radiation workers and have a responsibility for identifying, reporting, and if possible correcting radiation hazards.

Personnel are also trained during new hire radiation and safety training on how to respond to emergency situations without RSO's or RST's present. Uranerz has created Emergency Response Manuals (ERM) that employees are trained to. The ERM addresses situations such as emergency conditions like uncontained leaks and spills that require RSO and/or RST notification.

Radiation safety officers or radiation safety technicians will be allowed to train designees. Designees will not be allowed to perform unsupervised daily inspections unless they have met the education and experience requirements and training is complete, reviewed, and approved by a RSO.

Education and experience requirements: Trainees will have education and experience commensurate with risks associated with the task being performed. Uranerz will therefore require the following qualifications from personnel who will be trained and perform daily radiation safety inspections.

- a. High school diploma or equivalent;
- b. At least three months of experience working in uranium recovery as a radiation worker or qualification as a plant operator.
- c. Classroom training covering the sections regarding daily inspections in Uranerz procedures. Training will also cover ALARA principles related to an operational uranium recovery facility. A written test will be performed at the completion of the training where an 80% or better must be achieved to display appropriate knowledge base for performing inspections.
- d. Upon successful completion of classroom training and subsequent test, trainees will perform at least 4 daily inspections while supervised by RSO's or RST's. RSO's or RST's will coach trainees on how to perform an inspection focusing on ALARA principles and appropriate radiation control techniques.
- e. After completing items in part d above trainees will perform a final inspection while being evaluated by a RSO. The RSO will grade the trainee on the inspection as either pass or fail.
- f. If the trainee passes the final inspection then the training documents will be completed and placed in the employees training file for review during inspection. The trainee is now a qualified designee approved to perform daily inspections in accordance with section 5.4.1.
- g. Re-training of the employee will occur within six months of initial training and at least annually thereafter. Re-training will require successful completion of one inspection as described in part "d" above and one final inspection as described in point "e" above.
- h. If during the original training or re-training the trainee fails the final inspection the trainee will be required to complete training starting back at point "c" listed above.

5.5 RADIATION SAFETY TRAINING

All personnel will be provided training before entering controlled areas or beginning their jobs. The scope of the training will be based on access requirements to the facility and potential for exposure to radiation and radioactive materials. The scope of training will initially be determined with respect to whether the individual is a visitor, or an employee or contractor. Training of visitors will be applicable to newly hired employees and contractors, and visitors who will not or have not completed other site-specific training (e.g. as described below). All visitors to the facility will receive instruction on what they should do to avoid possible radiological, and nonradiological

hazards in the areas of the facility they will be visiting, escort requirement, and actions to take during an emergency.

All new employees and contractors will be instructed by means of an established course in the inherent risk of exposure to radiation and the fundamentals of protection against exposure to uranium and its daughters before beginning their jobs. The training will be commensurate with the risks and hazards associated with their requirements for access to the site. Those personnel who need unescorted access to the wellfield and process area will be provided a course of instruction covering those topics identified in NRC Regulatory Guide 8.31, "Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Recovery Facilities Will Be As Low As Is Reasonably Achievable," Revision 1, 2002 at Section 2.5. The instruction will be consistent with NRC Regulatory Guide 8.29, "Instruction Concerning Risks from Occupational Radiation Exposure," Revision 1, 1996 and NRC Regulatory Guide 8.13, "Instruction Concerning Prenatal Radiation Exposure," Revision 3, 1999.

Those employees and contractors who will work in the wellfield or process area (i.e. working around radiation and/or with radioactive materials) will be provided additional training. The additional training will include more depth on the previously identified topics, particular instruction on the health and radiation safety aspects and nonradiological hazards of tasks, and the requirements of procedures and instructions pertaining to radiation safety.

A written or oral test will be given to each individual. The test will cover radiation safety and health protection principles and requirements as applicable to the Nichols Ranch ISR Project site. The test will be reviewed with the individual(s), including discussion of wrong answers. Individuals who fail the test will be provided additional training and successfully retested if the intention remains to place them in the wellfield or process area.

Employees and contractors will be provided refresher training annually. The refresher training will be an abbreviated form of the original training. Refresher training will also include relevant information available since the previous training, review of safety issues since the previous training, applicable changes in regulations and license conditions, and personnel exposure trends.

Training will be documented to include individuals name and employer, topic, date, and identification of instructor. Records will be maintained of this documentation and test results.