



January 25, 2013

Attn: Document Control Desk
Director
Office of Federal and State Materials and
Environmental Management Programs
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Attn: Document Control Desk
U.S. Nuclear Regulatory Commission
Deputy Director
Decommissioning and Uranium Recovery Licensing Directorate
Division of Waste Management and Environmental Protection
Office of Federal and State Materials and Environmental Management Protection
Mail Stop T-8F5
11545 Rockville Pike
Two White Flint North
Rockville, MD 20852-2738

Re: Semi-Annual and Annual Report Uranerz Energy Corporation Nichols Ranch ISR Project SUA-1597

Dear Director and Deputy Director,

This letter and attachments serve as the Semi-Annual and Annual Report for the Uranerz Energy Corporation Nichols Ranch ISR Project that is required by License Conditions 9.4E, 10.11, 11.1 B and D, 11.7, 12.7, and 12.10 in SUA-1597.

Revised pages to the license application are enclosed in accordance with SUA-1597 License Condition 9.4E. An index of change has been included to guide insertion into the license application.

If you have any questions regarding the provided information, please contact me at 307-265-8900 or by email at mthomas@uranerz.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "M. Thomas", is written over the word "Sincerely,".

Michael P. Thomas
Vice President Environmental, Safety, and Health
Uranerz Energy Corporation

MT/dk

USA OPERATIONS
P.O. Box 50850 T: 307 265 8900
1701 East E Street F: 307 265 8904
Casper WY 82605-0850

CANADA OPERATIONS
Suite 1410 T: 604 689 1659
800 West Pender Street F: 604 689 1722
Vancouver BC V6C 2V6

NYSE Amex Exchange: URZ
Toronto Stock Exchange: URZ
Frankfurt Stock Exchange: U9E
www.uranerz.com

FSME20

Attachments

**July-December 2012 Semi-Annual and 2012 Annual Report
Annual Revised Pages to License Application**

**cc: Ron Linton, NRC Project Manager
Mark Rogaczewski, WDEQ-LQD District III Supervisor (July-December 2012 Semi-Annual and
2012 Annual Report only)**

USA OPERATIONS
P.O. Box 50850
1701 East E Street
Casper WY 82605-0850

T: 307 265 8900
F: 307 265 8904

CANADA OPERATIONS
Suite 1410
800 West Pender Street
Vancouver BC V6C 2V6

T: 604 689 1659
F: 604 689 1722

NYSE Amex Exchange: URZ
Toronto Stock Exchange: URZ
Frankfurt Stock Exchange: U9E
www.uranerz.com



July-December 2012 Semi-Annual and 2012 Annual Report – Nichols Ranch ISR Project SUA-1597

1. Introduction:

Uranerz received Source Material License SUA-1597 on July 19, 2011. The Semi-Annual and Annual report summarizes the operational and environmental activities and monitoring for the Nichols Ranch and Hank Units as required by SUA-1597. Semi-Annual reporting is performed according to SUA-1597 License Condition 11.1 B and D, and 12.10 and includes information for the period of July through December 2012. Annual Reporting is submitted per License Conditions 9.4E, 10.11, 11.7, and 12.7 accounting for January through December 2012.

2. Activities Summary:

Uranerz continued construction of the Nichols Ranch Unit Central Processing Plant (CPP) and Production Area #1 (PA#1) during the report period as summarized in Quarterly Reports submitted to the NRC. The office building was completed and furnished. Construction in the laboratory was also finished and set up commenced. As required by SUA-1597, the security fence was installed around the perimeter of the plant area facilities. Additionally, the 25-year precipitation event ditch was installed along the outside northwest corner of the facilities.

The development of PA#1 progressed during the report period with the installation of the first three header houses, main trunkline and other related infrastructure. Class III well installation in PA#1 also continued during the report period which is reported Quarterly to the NRC. Baseline sampling for PA#1 was completed late 4th Quarter 2012. Uranerz is preparing the Upper Control Limits (UCLs) and restoration target values (RTVs) in accordance with License Conditions 11.3 and 11.4 for submittal to the NRC and WDEQ Land Quality Division (WDEQ-LQD).

Uranerz received approval of the Aquifer Exemption and the Deep Disposal Wells by WDEQ Water Quality Division during the report period. Installation of two deep disposal wells is scheduled to commence in the 1st Quarter 2013.

Construction of the CPP, along with wellfield development in PA#1 will continue during the first half of 2013.

No operational activities occurred at the Hank Unit during the report period. The Environmental Assessment (EA) is pending with the Bureau of Land Management (BLM) for the 280 acres that the BLM manages.

3. Safety and Environmental Review Panel (SERP) Evaluations

Per License Condition 9.4E Uranerz shall furnish, in an annual report to the NRC, a description of such changes, tests, or experiments, including a summary of the evaluations made by the safety and

USA OPERATIONS

P.O. Box 50850 T: 307 265 8900
1701 East E Street F: 307 265 8904
Casper WY 82605-0850

CANADA OPERATIONS

Suite 1410 T: 604 689 1659
800 West Pender Street F: 604 689 1722
Vancouver BC V6C 2V6

NYSE Amex Exchange: URZ
Toronto Stock Exchange: URZ
Frankfurt Stock Exchange: U9E
www.uranerz.com

environmental evaluation panel (SERP). Uranerz completed a total of four (4) SERPs during the year. Table 1 SERP Summaries contains details regarding each SERP completed during the year. Changed pages to the operations plan and reclamation plan are being submitted in accordance with the license condition, separate of this report.

4. Status of Production Areas

Operations

During the reporting period no production areas were operational. As stated above construction of the facilities and PA#1 continues at the Nichols Ranch Unit.

License Condition 10.11 requires the volume disposed in each disposal well to be reported in an annual monitoring report. Uranerz is not yet operational and did not dispose into a disposal well during the period.

Restoration

No production areas are in restoration for the reporting period.

Mechanical Integrity Testing

As done previously, the number of wells installed and mechanical integrity test (MIT) status (License Condition 11.1B) has been reported in the Quarterly Reports to the NRC to reduce reporting redundancy between agencies requiring the same information.

5. Operational Monitoring

No production activities occurred during the report period. The following results are a summary of operational effluent and environmental monitoring required to be reported semi-annually in accordance with License Condition 11.1D.

Excursion Well Status

No wells were on excursion status during the reporting process. Excursion monitoring will commence following lixiviant circulation.

Groundwater Monitoring

A review of groundwater wells, per License Condition 11.7 within 2 kilometers of any production area showed no new wells.

Pursuant to License Condition 12.10 pre-operational water samples were collected from domestic and livestock wells located within 2 kilometers of the proposed production area. The samples were analyzed at an offsite laboratory for natural uranium, radium-226, and those

constituents, chloride, conductivity, and alkalinity, as listed in Section 5.7.8.9 of the license application. The analysis results are provided in Appendix A.

Surface Water Monitoring

In accordance with Section 5.7.7.3.1 of the license application surface water will be collected and analyzed for total uranium, Th-230, Ra-226, and Pb-210. Given the prevailing dry conditions grab samples from locations of surface water were not able to be collected. There are three surface water self-samplers on site with two located at the Nichols Ranch Unit and one at the Hank Unit. Uranerz was able to collect two samples during the period. In the first semi-annual report 2012 Uranerz reported a surface water sample was collected; however, that sample was actually collected in July 2012 the results of which are included in this report. The collected water samples were analyzed at an offsite laboratory and the results are provided in Appendix B.

Meteorology

Uranerz previously reported that a meteorological station was installed for the collection of data per License Condition 12.7. Results of the one year monitoring will be submitted to the NRC under separate cover.

6. Surety

All activities that have been conducted to date at the Nichols Ranch ISR Project are covered in the original surety estimate that was submitted when SUA-1597 was issued. No revisions are necessary at this time.

The WDEQ-LQD also requires an annual surety review and therefore Uranerz will review the surety annually in December (during the NRC second half semi-annual report period) thus aligning the NRC and LQD surety reviews for consistency, standardization and reduced redundancy. Uranerz submitted the update to the NRC under cover letter dated December 20, 2012.

Appendices

Appendix A – Livestock and Domestic Wells within 2 Kilometers

Appendix B – Surface Water

USA OPERATIONS

P.O. Box 50850
1701 East E Street
Casper WY 82605-0850

T: 307 265 8900
F: 307 265 8904

CANADA OPERATIONS

Suite 1410
800 West Pender Street
Vancouver BC V6C 2V6

T: 604 689 1659
F: 604 689 1722

NYSE Amex Exchange: URZ
Toronto Stock Exchange: URZ
Frankfurt Stock Exchange: U9E
www.uranerz.com

Table 1
Annual SERP Summary
Uranerz Energy Corporation

SERP No.	Date	SERP Topic	Evaluation Summary
SERP-3-2012	9/14/2012	Mechanical Integrity Duration Change	During preparation of Quarterly Reports it was discovered that the MIT duration described in Volume I Section 3.4.6 in license application was outdated with language from an outdated draft of NUREG-1569 which described using a 30- or 60- minute duration versus a 10-minute duration. It had not been recognized during the initial application submittal. The current NUREG-1569 indicated using a 10-minute duration. The SERP approved the adoption of the 10-minute duration based on NUREG-1569 as well as industry experience using this duration. Revised pages to the license have been prepared.
SERP-5-2012	5/14/2012	Seed Mix Change	A landowner requested Uranerz change the seed mix used to revegetate their areas. The SERP evaluated the request and found that the landowners may request changes at any time per landowner agreements, and these have to be approved with WDEQ-LQD. The SERP reviewed the NRC SEIS for Nichols Ranch which concluded that there is deference by the NRC to the WDEQ-LQD in such matters and areas would be reseeded with the native seed mixture that the private landowners and the WDEQ-LQD approved. Therefore the SERP approved the change that future seed mix change requests would be changed with WDEQ-LQD and changes to the license application would no longer be required. Revised pages to the license have been prepared.
SERP-6-2012	5/14/2012	Transfer and Approval of RSO	The SERP evaluated the transfer of RSO from Kurt Brown to Krista Wenzel. The SERP reviewed Krista Wenzel's qualifications in accordance with NRC Regulatory Guide 8.31. Based on Regulatory Guide 8.31 criteria, the SERP approved Krista Wenzel's appointment to RSO.
SERP-8-2012	6/8/2012	Management Title Changes	The SERP evaluated changes to management titles provided in Chapter 5 of Volume I Technical Review. The Production Manager is now the Vice President, Production and the Manager, ESH is now Vice President, ESH. The SERP also evaluated the responsibilities resulting from these changes and concluded that revisions to the responsibilities were required in addition to the title changes. The SERP reviewed and revised the responsibilities of the Mine Superintendent and the Environmental and Radiation Technicians. Revised pages to the license have been prepared.

Appendix A
Livestock and Domestic Wells Within 2 Kilometers
Water Quality Analysis
July-December 2012 Semi-Annual Report

Sample Location	Sample Date	Uranium-Natural (Total)		Radium 226			Alkalinity (mg/L)	Conductivity (umhos/cm)	Chloride (mg/L)
		Concentration (mg/L)	Reporting Limit (mg/L)	Concentration (pCi/L)	Precision (±) (pCi/l)	MDC or RL (pCi/L)			
Hank Unit									
North Dry Willow*	30 Jul 12	0.0669	0.0003	0.61	0.19	0.19	129	2160	10
Dry Willow #1	1 Aug 12	0.0017	0.0003	39	1.2	0.16	120	1180	3
	9 Nov 12	0.0024	0.0003	63	2.1	0.27	122	1160	3
Brown - F	13 Sep 12	0.0016	0.0003	3.9	0.38	0.14	150	498	5
Brown - WS*	14 Aug 12	0.0079	0.0003	0.27	0.14	0.16	85	1150	6
Means #1*	30 Jul 12	0.0280	0.0003	0.84	0.22	0.19	102	1560	4
Paden #1*	14 Aug 12	0.560	0.0003	3.9	0.38	0.16	132	2070	9
Doble Hill Well #1	Not Sampled, Dry Well								
Connie #2	Not Sampled, Dry Well								
Nichols Ranch Unit									
DW-4L	23 Jul 12	ND	0.0003	0.25	0.12	0.13	114	606	10
	12 Nov 12	ND	0.0003	0.65	0.22	0.23	111	609	10
DW-4M	8 Jul 12	ND	0.0003	0.29	0.13	0.15	178	1220	12
	8 Nov 12	ND	0.0003	0.29	0.14	0.16	193	1210	12
DW-4U	8 Nov 12	0.0830	0.0003	0.31	0.19	0.24	127	1420	4
	18 Jul 12	0.0817	0.0003	0.53	0.16	0.16	130	1450	5
Nichols #1	17 Jul 12	0.0294	0.0003	0.02	0.10	0.17	128	500	6
	2 Nov 12	0.0285	0.0003	0.43	0.17	0.19	133	482	6
Pats #1	17 Jul 12	0.0441	0.0003	0.19	0.12	0.16	119	612	7
	2 Nov 12	0.0425	0.0003	0.31	0.15	0.18	125	599	6
Pug #2	17 Jul 12	ND	0.0003	0.25	0.13	0.16	249	492	4
	2 Nov 12	ND	0.0003	0.20	0.13	0.16	251	483	3
Brown 21-6	17 Jul 12	0.0007	0.0003	0.07	0.17	0.28	190	519	7
	2 Nov 12	ND	0.0003	0.19	0.15	0.21	156	410	6
Dry Fork #3	Not Sampled, Dry Well								
Pug #1	Not Sampled, Dry Well								

Notes:

ND =Not Detected at the Reporting Limit

MDC = Minimum Detectable Concentration

RL = Reporting Limit

*At the end of September 2012 the Landowner shut down the wells.

Appendix B
Uranerz Surface Water
Water Quality Analysis
July-December 2012 Semi-Annual Report

Sample Location	Sample Date	Uranium-Natural (Total)		Radium 226			Lead 210			Thorium 230		
		Concentration (mg/L)	Reporting Limit (mg/L)	Concentration (pCi/L)	Precision (±) (pCi/L)	MDC or RL (pCi/L)	Concentration (pCi/L)	Precision (±) (pCi/L)	MDC or RL (pCi/L)	Concentration (pCi/L)	Precision (±) (pCi/L)	MDC or RL (pCi/L)
NRSSW (Cottonwood D Nichols)	18 Jul 12	0.0752	0.0003	0.36	0.15	0.17	0.7	0.7	1.2	-0.03	0.1	0.5
NRSSE (Cottonwood U Nichols)	N/A	No water present to sample										
Dry Willow Reservoir	N/A	No water present to sample										
Brown Water Pond	N/A	No water present to sample										
HSS (Dry Willow Creek)	9 Nov 12	0.0004	0.0003	-10	12	25	1.0	0.8	1.3	0.06	0.08	0.2

Notes:

ND = Not Detected at the Reporting Limit

MDC = Minimum Detectable Concentration

RL = Reporting Limit

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

INDEX SHEET FOR NRC SOURCE MATERIAL LICENSE AMENDMENTS OR REVISIONS

Page: 1
Date : 1/20/13

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

LICENSE NO.: SUA-1597

Statement: I, Michael P. Thomas, an authorized representative of Uranerz Energy Company 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.

MPT 1-20-2013

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
<u>Volume I, Technical Report</u>	<u>Page TR-184</u>	<u>Page TR-184</u>	<u>Page revision to license application to update Mechanical Integrity Test duration.</u>
<u>Volume I, Technical Report</u>	<u>Pages TR-202 thru TR-206</u>	<u>Pages TR-202 thru TR-206</u>	<u>Page revisions to license application with title and responsibility changes.</u>
<u>Volume I, Technical Report</u>	<u>Pages TR-271 & TR-272</u>	<u>Pages TR-271 & TR-272</u>	<u>Page revisions to license application for seed mix changes per land owner requirements. Uranerz Reclamation Seed Mixture was revised to reflect removal of sweet clover seed as required by the land owner.</u>

3.4.6 Well Casing Integrity

After an injection or recovery well has been completed, and before it is made operational, a Mechanical Integrity Test (MIT) of the well casing is conducted. For the integrity test, the bottom of the casing adjacent to or below the confining layer above the production zone is sealed with a plug, down hole packer, or other suitable device. The top of the casing is then sealed in a similar manner or with a sealed cap, and a pressure gauge is installed to monitor the pressure inside the casing. The pressure in the sealed casing is then increased to 125% of the maximum operating wellhead casing pressure or to an amount less than the formation fracture pressure (whichever is less). The well pressure is then monitored for a period of 10 minutes. A well is considered satisfactory with a pressure drop of no more than 10%. ~~A well is considered satisfactory if a pressure drop of less than 10% occurs over one hour. A second procedure that uses a 5% pressure drop over 30 minutes may also be used.~~

If there are obvious leaks, or the pressure drops by more than 10% during the ~~160-~~minute period, ~~or equivalent period,~~ the seals and fittings will be reset and/or checked and another test is conducted. If the pressure drops less than or equal to 10% the well casing is considered to have demonstrated acceptable mechanical integrity.

The results of the MITs conducted during a quarter are documented on a quarterly bases to include the well designation, date of the test, method by which the MIT was completed, verification of whether the MIT was or was not established, test duration, beginning and ending pressures, and the signature of the individual responsible for conducting the test. Results of the MITs are maintained on site and are available for inspection by NRC and WDEQ personnel. In accordance with regulatory requirements the results of MITs are reported to the WDEQ on a quarterly basis for those wells that were tested. In accordance with WDEQ and EPA requirements, MITs are repeated once every five (5) years for all wells used for injection of lixiviant, or injection of fluids for restoration operations.

If a well casing does not meet the MIT criteria, the well will be placed out of service and the casing may be repaired and the well re-tested or abandoned. If a repaired well passes the MIT, it

will be employed in its intended service. If an acceptable test cannot be obtained after repairs, the well will be plugged and abandoned. The WDEQ-LQD Administration will be notified in

3.4.6 Well Casing Integrity

After an injection or recovery well has been completed, and before it is made operational, a Mechanical Integrity Test (MIT) of the well casing is conducted. For the integrity test, the bottom of the casing adjacent to or below the confining layer above the production zone is sealed with a plug, down hole packer, or other suitable device. The top of the casing is then sealed in a similar manner or with a sealed cap, and a pressure gauge is installed to monitor the pressure inside the casing. The pressure in the sealed casing is then increased to 125% of the maximum operating wellhead casing pressure or to an amount less than the formation fracture pressure (whichever is less). The well pressure is then monitored for a period of 10 minutes. A well is considered satisfactory with a pressure drop of no more than 10%.

If there are obvious leaks, or the pressure drops by more than 10% during the 10-minute period, the seals and fittings will be reset and/or checked and another test is conducted. If the pressure drops less than or equal to 10% the well casing is considered to have demonstrated acceptable mechanical integrity.

The results of the MITs conducted during a quarter are documented on a quarterly bases to include the well designation, date of the test, method by which the MIT was completed, verification of whether the MIT was or was not established, test duration, beginning and ending pressures, and the signature of the individual responsible for conducting the test. Results of the MITs are maintained on site and are available for inspection by NRC and WDEQ personnel. In accordance with regulatory requirements the results of MITs are reported to the WDEQ on a quarterly basis for those wells that were tested. In accordance with WDEQ and EPA requirements, MITs are repeated once every five (5) years for all wells used for injection of lixiviant, or injection of fluids for restoration operations.

If a well casing does not meet the MIT criteria, the well will be placed out of service and the casing may be repaired and the well re-tested or abandoned. If a repaired well passes the MIT, it will be employed in its intended service. If an acceptable test cannot be obtained after repairs, the well will be plugged and abandoned. The WDEQ-LQD Administration will be notified in

-compliant with applicable regulations and permit/license conditions. The President is also responsible for maintenance of the license. The President provides for direct supervision of the Executive Vice President in this capacity.

Executive Vice President

The Executive Vice President reports to the President and is directly responsible for ensuring that operations personnel comply with radiation safety and environmental protection programs. The Executive Vice President is also responsible for compliance with all federal and state regulations, license conditions, and reporting requirements. The Executive Vice President has the responsibility and authority to terminate immediately any activity that is determined to be a threat to employee or public health, the environment, or potentially a violation of state or federal regulations. The Executive Vice President directly supervises the functional area managers.

Vice President, Production Manager

The Vice President, Production Manager reports directly to the Executive Vice President. The Vice President, Production Manager is responsible for all production activity at the site. In addition to production activities, the Vice President, Production Manager is also responsible for implementation of industrial and radiation safety, and environmental protection programs associated with operations. ~~All site operations, maintenance, construction, environmental health and safety, and support groups report to the Production Manager. The Production Manager is authorized to implement immediately any action to correct or prevent hazards. The Production Manager has the responsibility and the authority to suspend, postpone, or modify, immediately if necessary, any activity that is determined to be a threat to employee or public health, the environment, or potentially a violation of state or federal regulations. The Production Manager cannot unilaterally override a decision for suspension, postponement, or modification if that decision is made by senior management, the Manager Environmental, Safety, and Health Manager, or the Radiation Safety Officer.~~ The Vice President, Production Manager directly supervises the Mine Superintendent.

Mine Superintendent

The Mine Superintendent reports directly to the Vice President, Production-Manager. All site operations, maintenance, construction, environmental health and safety, and support groups report to the Mine Superintendent. The Mine Superintendent is authorized to implement immediately any action to correct or prevent hazards. The Mine Superintendent has the responsibility and the authority to suspend, postpone, or modify, immediately if necessary, any activity that is determined to be a threat to employee or public health, the environment, or potentially a violation of state or federal regulations. The Mine Superintendent is responsible for day-to-day operation and management of construction and production activities

~~at the site. The Mine Superintendent is also responsible for implementation of industrial and radiation safety, and environmental protection programs associated with construction and plant management. The Mine Superintendent has the responsibility and the authority to suspend, postpone, or modify, immediately if necessary, any activity that is determined to be a threat to employee or public health, the environment, or a potentially a violation of state or federal regulations. The Mine Superintendent oversees the line management for the functional areas of construction, administration, operations, maintenance, and support.~~

Line Management

Line management reports directly to the Mine Superintendent. Line management is responsible for management oversight and direct supervision of activities including construction, operations, maintenance, and support for the respective functional area. Line management is responsible for line implementation of industrial and radiation safety, and environmental protection program requirements associated with the respective functional area. Line management is responsible for line conduct and enforcing compliance with management controls (e.g. operating procedures, radiation work permits, and ALARA requirements within the respective functional area. Line management has the authority to stop any activity, immediately if necessary, that is determined to be a threat to employee or public health, the environment, or a potentially a violation of state or federal regulations. Line management oversees all wellfield, production, and lab personnel.

ES&H Manager Vice President, Environment, Safety, and Health

The Vice President Environment Safety, and Health (ESH) Manager Environmental, Safety, and Health Manager, reports directly to the Executive Vice President. The Vice President Manager ESH is responsible for all radiation protection, health and safety, and environmental programs, and for ensuring compliance with all applicable regulatory requirements. The Vice President Manager ESH also has the responsibility to advise senior management on matters involving radiation safety and to implement changes and/or corrective actions involving radiation safety authorized by senior management. The Vice President Manager ESH is tasked to ensure that the radiation safety and environmental monitoring and protection programs are conducted in a manner consistent with regulatory requirements. This position assists in the development and

for routine auditing of the programs. The Vice President Manager-ESH has no production-related

-responsibilities. The ~~Vice President, ESH Manager Environment, Safety, and Health~~ supervises the Radiation Safety Officer.

Radiation Safety Officer

The Radiation Safety Officer (RSO) reports directly to the ~~Vice President, ESH Manager Environment, Safety, and Health~~. The RSO is responsible for conducting the radiation safety program and for providing assistance in ensuring compliance with NRC regulations and license conditions applicable to worker health protection. The RSO is responsible for overseeing the day-to-day operation of the radiation safety program and for ensuring that records required by NRC are maintained. The RSO has the responsibility and the authority to suspend, postpone, or modify, immediately if necessary, any activity that is determined to be a threat to employee or public health, the environment, or potentially a violation of state or federal regulations, including the ALARA program. The RSO has no production-related responsibilities. The RSO supervises the Radiation Safety Technician(s).

Environmental and Radiation Safety Technicians

The Environmental ~~and Radiation Safety T~~technicians report directly to the ~~Vice President, ESH Manager ESH~~ and the ~~Radiation Safety Technicians report directly to the~~ RSO, ~~respectively~~. The Environmental and Radiation Safety ~~T~~technicians assist the ~~Vice President, Manager ESH~~ and the RSO with the implementation of the environmental monitoring and radiation safety programs. The Environmental and Radiation Safety ~~T~~technicians are responsible for the orderly collection and recording of all data from environmental and radiological safety programs. The Environmental and Radiation Safety ~~T~~technicians have no production-related responsibilities.

5.1.2 ALARA

Formatted: Heading 3

The radiation safety and environmental programs at the Nichols Ranch ISR Project site will be implemented in the context of keeping personnel and environmental exposure to radiation and radioactive material as low as is reasonably achievable (ALARA).

5.1.2.1 Philosophy

The considered purpose of the radiation safety and environmental protection programs at the Nichols Ranch ISR Project site are to maintain exposure to radiation and radioactive materials ALARA for all employees, contractors, visitors, and the environment. The implementation and effectiveness of a successful ALARA program is the responsibility of everyone involved in conducting operations at the site.

5.1.2.2 Responsibilities

Responsibilities for implementation of the ALARA philosophy are shared by management, the RSO, and all workers at the Nichols Ranch ISR Project site.

Management

Management is responsible for developing, implementing, and enforcing the policies and procedures necessary for effective radiation safety, environmental protection, and ALARA programs to ensure the health and safety of workers and visitors, and protection of the environment.

Management will provide the following:

1. A strong commitment to and continuing support for the development and implementation of the radiation safety, environmental protection, and ALARA programs;
2. Information and policy statements to employees, contractors, and visitors.
3. Periodic management review of operational and procedural efforts to maintain ALARA;
4. Continuing management evaluation of the radiation safety and environmental protection programs including staffing, and allocations of space and funding; and
5. Appropriate briefings and training in radiation safety, environmental protection, and ALARA concepts for all employees, and, when appropriate, for contractors and visitors.

Vice President, ~~Manager~~-ESH and RSO

The Vice President, ~~Manager~~-ESH and the RSO have primary responsibility for the technical adequacy and correctness of an ALARA application for the environmental protection and radiation safety programs. Each has continuing responsibility for surveillance and supervisory action in the enforcement of the ALARA program.

The Vice President, ~~Manager~~-ESH and the RSO will be assigned the following:

1. Major responsibility for the development and administration of the environmental protection, radiation safety, and ALARA programs;
2. Sufficient authority to enforce regulations and administrative policies that affect any aspect of the environmental protection and radiation safety;
3. Responsibility to review and approve plans for new equipment, process changes, or changes in operating procedures to ensure that the plans do not adversely affect the environmental protection and radiation safety programs; and
4. Adequate equipment and facilities to monitor relative attainment of the ALARA objective.

Workers

Environmental protection, radiation safety, and ALARA programs are only as effective as the workers' adherence to the program. All workers at the Nichols Ranch ISR Project site will be responsible for the following:

1. Adhering to all policies, operating procedures, and instruction for environmental protection and radiation safety as established by management;
2. Reporting promptly to management equipment malfunctions or violations of standard practices or procedures that could result in increased radiological hazard;
3. Suggesting improvements for the environmental protection, radiation safety, and ALARA programs.

compliant with applicable regulations and permit/license conditions. The President is also responsible for maintenance of the license. The President provides for direct supervision of the Executive Vice President in this capacity.

Executive Vice President

The Executive Vice President reports to the President and is directly responsible for ensuring that operations personnel comply with radiation safety and environmental protection programs. The Executive Vice President is also responsible for compliance with all federal and state regulations, license conditions, and reporting requirements. The Executive Vice President has the responsibility and authority to terminate immediately any activity that is determined to be a threat to employee or public health, the environment, or potentially a violation of state or federal regulations. The Executive Vice President directly supervises the functional area managers.

Vice President, Production

The Vice President, Production reports directly to the Executive Vice President. The Vice President, Production is responsible for all production activity at the site. In addition to production activities, the Vice President, Production is also responsible for implementation of industrial and radiation safety, and environmental protection programs associated with operations. The Vice President, Production directly supervises the Mine Superintendent.

Mine Superintendent

The Mine Superintendent reports directly to the Vice President, Production. All site operations, maintenance, construction, environmental health and safety, and support groups report to the Mine Superintendent. The Mine Superintendent is authorized to implement immediately any action to correct or prevent hazards. The Mine Superintendent has the responsibility and the authority to suspend, postpone, or modify, immediately if necessary, any activity that is determined to be a threat to employee or public health, the environment, or potentially a violation of state or federal regulations.

Line Management

Line management reports directly to the Mine Superintendent. Line management is responsible for management oversight and direct supervision of activities including construction, operations, maintenance, and support for the respective functional area. Line management is responsible for line implementation of industrial and radiation safety, and environmental protection program requirements associated with the respective functional area. Line management is responsible for line conduct and enforcing compliance with management controls (e.g. operating procedures, radiation work permits, and ALARA requirements within the respective functional area. Line management has the authority to stop any activity, immediately if necessary, that is determined to be a threat to employee or public health, the environment, or a potential violation of state or federal regulations. Line management oversees all wellfield, production, and lab personnel.

Vice President, Environment, Safety, and Health

The Vice President Environment Safety, and Health (ESH) reports directly to the Executive Vice President. The Vice President ESH is responsible for all radiation protection, health and safety, and environmental programs, and for ensuring compliance with all applicable regulatory requirements. The Vice President ESH also has the responsibility to advise senior management on matters involving radiation safety and to implement changes and/or corrective actions involving radiation safety authorized by senior management. The Vice President ESH is tasked to ensure that the radiation safety and environmental monitoring and protection programs are conducted in a manner consistent with regulatory requirements. This position assists in the development and review of radiological and environmental sampling and analysis procedures and is responsible for routine auditing of the programs. The Vice President ESH has no production-related

responsibilities. The Vice President, ESH supervises the Radiation Safety Officer.

Radiation Safety Officer

The Radiation Safety Officer (RSO) reports directly to the Vice President, ESH. The RSO is responsible for conducting the radiation safety program and for providing assistance in ensuring compliance with NRC regulations and license conditions applicable to worker health protection. The RSO is responsible for overseeing the day-to-day operation of the radiation safety program and for ensuring that records required by NRC are maintained. The RSO has the responsibility and the authority to suspend, postpone, or modify, immediately if necessary, any activity that is determined to be a threat to employee or public health, the environment, or potentially a violation of state or federal regulations, including the ALARA program. The RSO has no production-related responsibilities. The RSO supervises the Radiation Safety Technician(s).

Environmental and Radiation Safety Technicians

The Environmental Technicians report directly to the Vice President, ESH and the Radiation Safety Technicians report directly to the RSO. The Environmental and Radiation Safety Technicians assist the Vice President, ESH and the RSO with the implementation of the environmental monitoring and radiation safety programs. The Environmental and Radiation Safety Technicians are responsible for the orderly collection and recording of all data from environmental and radiological safety programs. The Environmental and Radiation Safety Technicians have no production-related responsibilities.

5.1.2 ALARA

The radiation safety and environmental programs at the Nichols Ranch ISR Project site will be implemented in the context of keeping personnel and environmental exposure to radiation and radioactive material as low as is reasonably achievable (ALARA).

5.1.2.1 Philosophy

The considered purpose of the radiation safety and environmental protection programs at the Nichols Ranch ISR Project site are to maintain exposure to radiation and radioactive materials ALARA for all employees, contractors, visitors, and the environment. The implementation and effectiveness of a successful ALARA program is the responsibility of everyone involved in conducting operations at the site.

5.1.2.2 Responsibilities

Responsibilities for implementation of the ALARA philosophy are shared by management, the RSO, and all workers at the Nichols Ranch ISR Project site.

Management

Management is responsible for developing, implementing, and enforcing the policies and procedures necessary for effective radiation safety, environmental protection, and ALARA programs to ensure the health and safety of workers and visitors, and protection of the environment.

Management will provide the following:

1. A strong commitment to and continuing support for the development and implementation of the radiation safety, environmental protection, and ALARA programs;
2. Information and policy statements to employees, contractors, and visitors.
3. Periodic management review of operational and procedural efforts to maintain ALARA;
4. Continuing management evaluation of the radiation safety and environmental protection programs including staffing, and allocations of space and funding; and
5. Appropriate briefings and training in radiation safety, environmental protection, and ALARA concepts for all employees, and, when appropriate, for contractors and visitors.

Vice President, ESH and RSO

The Vice President, ESH and the RSO have primary responsibility for the technical adequacy and correctness of an ALARA application for the environmental protection and radiation safety programs. Each has continuing responsibility for surveillance and supervisory action in the enforcement of the ALARA program.

The Vice President, ESH and the RSO will be assigned the following:

1. Major responsibility for the development and administration of the environmental protection, radiation safety, and ALARA programs;
2. Sufficient authority to enforce regulations and administrative policies that affect any aspect of the environmental protection and radiation safety;
3. Responsibility to review and approve plans for new equipment, process changes, or changes in operating procedures to ensure that the plans do not adversely affect the environmental protection and radiation safety programs; and
4. Adequate equipment and facilities to monitor relative attainment of the ALARA objective.

Workers

Environmental protection, radiation safety, and ALARA programs are only as effective as the workers' adherence to the program. All workers at the Nichols Ranch ISR Project site will be responsible for the following:

1. Adhering to all policies, operating procedures, and instruction for environmental protection and radiation safety as established by management;
2. Reporting promptly to management equipment malfunctions or violations of standard practices or procedures that could result in increased radiological hazard;
3. Suggesting improvements for the environmental protection, radiation safety, and ALARA programs.

from the subsoil with the topsoil deposited on the subsoil after the pipeline ditch has been backfilled. These methods of topsoil salvaging have proven to be adequate as demonstrated by the successful revegetation and reclamation at prior and existing ISR operations.

6.2.4 Vegetation Reclamation Practices

All revegetation practices will be conducted in accordance with the WDEQ-LQD regulations and the methods outlined in the mining permit. Topsoil stockpiles, along with as many as practical disturbed areas of the wellfield, will be seeded with vegetation throughout the mining operation to reduce wind and water erosion. Final revegetation of the mine area will consist of seeding the area with one final reclamation seed mix. Table 6-1 shows ~~the a typical~~ seed mixture that will be used for reclamation. ~~This Seed~~ mixtures ~~was are~~ developed through discussions with the landowner and approved by the WDEQ-LQD. Changes to the seed mix requested by the landowner will be submitted to WDEQ-LQD for approval. A seeding rate of a minimum of 15 pounds of pure live seed per acre will be used when using a rangeland drill. On areas where it is not practicable to use a drill, the seed will be broadcast at a rate of 30 pounds pure live seed per acre.

The success of the final revegetation will be determined by measuring the revegetation in meeting prior mining land use conditions and reclamation success standards as compared to the "Extended Reference Area" outlined in WDEQ-LQD Guideline No. 2. The Extended Reference Area allows for a statistical comparison of the reclaimed area with an adjacent undisturbed area of the same or nearly the same vegetation type. The area that the Extended Reference Area has to encompass needs to be at least one half the size of the reclaimed area that is being assessed or at least no smaller than 25 acres in size.

In choosing the Extended Reference Area, the WDEQ-LQD will be consulted. This will ensure that the Extended Reference Area adequately represents the reclaimed area being assessed. The success of the final revegetation and final bond release will be determined by the WDEQ-LQD.

Table 6-1 Uranerz Reclamation Seed Mixture.

Species	Percent of Mix	Pounds PLS/acre
Western Wheatgrass	28 16.7	4.23 10
Revenue Slender Wheatgrass Pubescent Wheatgrass Luna	28 16.7	4.23 10
Bozoisky Russian Wildrye	49 16.7	2.85 3.10
Greenleaf Pubescent Intermediate Wheatgrass Rush	9 16.7	1.35 3.10
Gulf Annual Ryegrass Slender Wheatgrass Pryor	6 16.7	0.93 10
Yellow Blossom Sweet Clover Alfalfa/Inoculated Falcata	5 16.7	0.75 3.10
Ladak 65 Alfalfa	5	0.75
Total	100	15 18.6

6.2.5 Road Reclamation

6.2.5.1 Access Roads

Two access roads will be built to connect both the Nichols Ranch central processing plant (CPP) and the Hank satellite plant with the existing ranch roads. The length of the Nichols Ranch CPP road is approximately 0.20 mi in length. The Hank satellite plant road will also be approximately 0.20 mi in length. If the landowner desires, the roads will be left in place when operations are complete. If not, the roads will be reclaimed. Even if the roads are left in place, third party reclamation costs will be included in the reclamation bond estimate.

If the access roads are to be reclaimed, the first step will be to pick up and remove the scoria/gravel on the road surface. Once the scoria/gravel has been removed the roadbed will be disced or ripped. Next, the topsoil stored in the ditch will be re-applied on the road surface. Finally, the road surface will be mulched and seeded with the permanent seed mixture.

from the subsoil with the topsoil deposited on the subsoil after the pipeline ditch has been backfilled. These methods of topsoil salvaging have proven to be adequate as demonstrated by the successful revegetation and reclamation at prior and existing ISR operations.

6.2.4 Vegetation Reclamation Practices

All revegetation practices will be conducted in accordance with the WDEQ-LQD regulations and the methods outlined in the mining permit. Topsoil stockpiles, along with as many as practical disturbed areas of the wellfield, will be seeded with vegetation throughout the mining operation to reduce wind and water erosion. Final revegetation of the mine area will consist of seeding the area with one final reclamation seed mix. Table 6-1 shows a typical seed mixture that will be used for reclamation. Seed mixtures are developed through discussions with the landowner and approved by the WDEQ-LQD. Changes to the seed mix requested by the landowner will be submitted to WDEQ-LQD for approval. A seeding rate of a minimum of 15 pounds of pure live seed per acre will be used when using a rangeland drill. On areas where it is not practicable to use a drill, the seed will be broadcast at a rate of 30 pounds pure live seed per acre.

The success of the final revegetation will be determined by measuring the revegetation in meeting prior mining land use conditions and reclamation success standards as compared to the "Extended Reference Area" outlined in WDEQ-LQD Guideline No. 2. The Extended Reference Area allows for a statistical comparison of the reclaimed area with an adjacent undisturbed area of the same or nearly the same vegetation type. The area that the Extended Reference Area has to encompass needs to be at least one half the size of the reclaimed area that is being assessed or at least no smaller than 25 acres in size.

In choosing the Extended Reference Area, the WDEQ-LQD will be consulted. This will ensure that the Extended Reference Area adequately represents the reclaimed area being assessed. The success of the final revegetation and final bond release will be determined by the WDEQ-LQD.

Table 6-1 Uranerz Reclamation Seed Mixture.

Species	Percent of Mix	Pounds PLS/acre
Western Wheatgrass	16.7	3.10
Pubescent Wheatgrass Luna	16.7	3.10
Bozoisky Russian Wildrye	16.7	3.10
Intermediate Wheatgrass Rush	16.7	3.10
Slender Wheatgrass Pryor	16.7	3.10
Alfalfa/Inoculated Falcata	16.7	3.10
<hr style="border-top: 1px dashed black;"/>		
Total	100	18.6

6.2.5 Road Reclamation

6.2.5.1 Access Roads

Two access roads will be built to connect both the Nichols Ranch central processing plant (CPP) and the Hank satellite plant with the existing ranch roads. The length of the Nichols Ranch CPP road is approximately 0.20 mi in length. The Hank satellite plant road will also be approximately 0.20 mi in length. If the landowner desires, the roads will be left in place when operations are complete. If not, the roads will be reclaimed. Even if the roads are left in place, third party reclamation costs will be included in the reclamation bond estimate.

If the access roads are to be reclaimed, the first step will be to pick up and remove the scoria/gravel on the road surface. Once the scoria/gravel has been removed the roadbed will be disced or ripped. Next, the topsoil stored in the ditch will be re-applied on the road surface. Finally, the road surface will be mulched and seeded with the permanent seed mixture.