



May 8, 2014

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

Deputy Director, Drew Persinko
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: Uranerz Energy Corporation, Nichols Ranch ISR Project,
NRC License SUA-1597, Docket No. 40-9067
Jane Dough Unit License Amendment Request

Dear Mr. Holian and Mr. Persinko,

Uranerz Energy Corporation (Uranerz) is hereby submitting an amendment to the Source Material License SUA-1597 to construct and operate the Jane Dough Unit located in Campbell and Johnson Counties, Wyoming. The amendment area contains approximately 3,680 acres contiguous with the southern part of the existing Nichols Ranch Unit license boundary. The Jane Dough Unit will consist of two wellfield areas only and use the in situ recovery method to recover uranium for processing at the Nichols Ranch Central Processing Plant. Activities such as wellfield development, construction, operations, restoration, and decommissioning will be conducted in a manner consistent with existing operation and reclamation methods used at the Nichols Ranch Unit.

Therefore, Uranerz is submitting for review and approval a revised Technical Report, Environmental Report, and baseline information specific to the Jane Dough Unit. Once approved the baseline information will be incorporated into the existing license application as addendums to the relevant appendix.

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

American Stock Exchange: URZ
Toronto Stock Exchange: URZ
Frankfurt Exchange: U9E
www.uranerz.com

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The Technical Report Volume I (Chapters 1-11) of the existing Nichols Ranch ISR Project License Application has been revised to include the construction and operation of facilities at the Jane Dough Unit. Revisions to the Technical Report (e.g. narrative, tables, figures) have been bolded for ease of review. Volume IV contains the Environmental Report specific only to Jane Dough. Volumes V through X contain the baseline information, obtained specifically for Jane Dough, to support NRC Licensing and Wyoming Department of Environmental Quality – Land Quality Division (WDEQ-LQD) permitting requirements. The baseline information is as follows:

1. Appendix JD-A- Owners of Record of Surface and Mineral Rights Within the Permit Area, and Surface Landowner's Consent forms and related maps.
2. Appendix JD-B- Owners of Record of Surface and Mineral Rights Adjacent to the Jane Dough Unit area.
3. Appendix JD-C- Location of Lands by Legal Subdivision and related maps.
4. Appendix JD-D1- Baseline Land Use information for the Jane Dough Unit area.
5. Appendix JD-D2- History of the Jane Dough Unit area.
6. Appendix JD-D3- Baseline Archeology Studies for the Jane Dough Unit area. Includes a Class III Cultural Resource Inventory conducted by TRC Environmental Corporation (TRC). This is a confidential document and is being submitted under separate cover letter in accordance with 10 CFR 2.390.
7. Appendix JD-D4- Baseline Climatology data for east-central Wyoming. Uranerz installed a meteorological station at the central processing plant in 2011 at the adjacent Nichols Ranch Unit Central Processing Plant. Meteorological data for temperature, wind speed and wind direction have been collected, analyzed, and is presented in Appendix JD-D4. Meteorological data has also been collected from the seven meteorological stations that surround the project area. It also includes a regional general climate summary.
8. Appendix JD-D5- Baseline Regional and Site Geology for the Jane Dough Unit area. Includes geologic cross-sections of the wellfield areas, isopach maps, listing and mapping of abandoned drill holes, and regional and site-specific geologic descriptions.
9. Appendix JD-D6- Baseline Hydrology for the Jane Dough Unit area. Includes list of surface and groundwater rights, potentiometric surface maps, pump test results, and water quality data for potential mining zones, stock/domestic wells, and select surface water sites.
10. Appendix JD-D7- Baseline Soil Assessment for the Jane Dough Unit area. Includes an Order 2 survey of the Jane Dough Unit area conducted by BKS Environmental Associates, Inc. in 2011.
11. Appendix JD-D8- Baseline Vegetation Study for the Jane Dough Unit area. The study was conducted by TRC Environmental Corporation (TRC) in 2010.

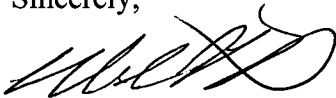
12. Appendix JD-D9- Baseline Wildlife Studies for the Jane Dough Unit area. Extensive wildlife surveys were conducted in 2006-2007. Wildlife Resources LLC of Bighorn Wyoming has conducted annual wildlife surveys (raptor nest survey and sage-grouse monitoring) of the area from 2006-2012.
13. Appendix JD-D10- Baseline Wetlands Survey for the Jane Dough Unit area. Wetland surveys for jurisdiction wetlands and WUS were conducted in 2010 and 2012. The surveys were conducted by TRC.
14. Appendix JD-D11- Baseline Radiological Assessments of the Jane Dough Unit area. Includes a dose assessment from the proposed wellfield operations using the MILDOS model.

Depending upon approval of this License Amendment and approval of the WDEQ-LQD Permit to Mine Amendment, Uranerz anticipates that wellfield development will take place starting in 2017 with production from the first wellfield in early 2018.

Concurrent with this License Amendment Request, Uranerz is also submitting a Permit to Mine Amendment request to the WDEQ-LQD. In order to maintain consistency between submittals to the agencies, the same baseline information is being submitted to the NRC and WDEQ-LQD. Uranerz is hopeful that a timely review and approval of this License Amendment Request by the NRC can be conducted to accommodate planned development activities for the Jane Dough Unit area.

The Uranerz staff is looking forward to working with the NRC staff during the license amendment review process. If there are any questions regarding the Nichols Ranch ISR Project, Jane Dough Amendment submittal, please contact me at the Casper office at 307-265-8900 or by email at mthomas@uranerz.com.

Sincerely,



Michael P. Thomas
Vice President, Regulatory and Public Affairs
Uranerz Energy Corporation

MT/dk

Enclosures: NRC Form 313
Nichols Ranch ISR Project Source Material License Application and supportive information.

cc: Ron Linton, NRC Project Manager

NRC FORM 313

(10-2005)
10 CFR 30, 32, 33,
34, 35, 36, 39, and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0120

EXPIRES: 10/31/2008

Estimated burden per response to comply with this mandatory collection request: 4.4 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

APPLICATION FOR MATERIAL LICENSE

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, MISSISSIPPI, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM
DIVISION OF NUCLEAR MATERIALS SAFETY
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-4005

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR (Check appropriate item)

☐

A. NEW LICENSE

☒B. AMENDMENT TO LICENSE NUMBER SUA-1597☐

C. RENEWAL OF LICENSE NUMBER _____

2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)

Uranerz Energy Corporation
1701 East E Street
PO Box 50850
Casper, WY 82605-0850

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Nichols Ranch ISR Project
485 Red Springs Rd
Johnson County, Wyoming
Linch, WY 82640

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Michael P. Thomas

TELEPHONE NUMBER

(307) 265-8900

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL

a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY 2.A.(2)

AMOUNT
ENCLOSED \$

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

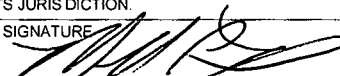
THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER -- TYPED/PRINTED NAME AND TITLE

Michael P. Thomas, Vice President Regulatory and Public Affairs

SIGNATURE



DATE

8-May-11

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	

**NICHOLS RANCH ISR PROJECT
SOURCE MATERIALS LICENSE APPLICATION**

**NRC Form 313 Attachment
Items 5 Through 11**

Applicant:

Uranerz Energy Corporation
PO Box 50850
1701 East E Street
Casper, WY 82605-0850

5. RADIOACTIVE MATERIAL

a) Element and Mass Number:

Uranium – U natural (U_{238} , U_{234} , U_{235})

b) Chemical and/or Physical Form:

Chemical Form – U_3O_8
Solution of 0 to 50 grams/liter
Dried Yellowcake – 50% to 80% U

c) Maximum Amount Which Will Be Possessed At Any One Time:

Unlimited

6. PURPOSE(S) FOR WHICH MATERIAL WILL BE USED:

Fuel for the generation of electricity from nuclear power plants

**7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM
AND THEIR TRAINING EXPERIENCE:**

Individual: John McCarthy – ESH Manager and RSO

Experience: Over 20 years of uranium ISR operations including 10+ years as uranium ISR RSO. Approved as RSO by NRC for SUA-1597 on July 2, 2013

**8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING
RESTRICTED AREAS:**

Information regarding this subject is provided in detail in Chapter 5 of the Nichols Ranch ISR Project, Source Material License Application, Technical Report.

9. FACILITIES AND EQUIPMENT:

Information on the Nichols Ranch ISR Project Facilities and Equipment is provided in detail in Chapter 3 of the Nichols Ranch ISR Project, Source Material License Application, Technical Report.

10. RADIATION SAFETY PROGRAM:

Information on the Nichols Ranch ISR Project Radiation Safety Program is provided in detail in Chapter 5 of the Nichols Ranch ISR Project, Source Material License Application, Technical Report.

11. WASTE MANAGEMENT:

Information on this subject is provided in detail in Chapter 4 of the Nichols Ranch ISR Project, Source Material License Application, Technical Report.