



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Buffalo Field Office  
1425 Fort Street  
Buffalo, Wyoming 82834-2436



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Nichols Ranch Uranium ISR Project (WYW-169904)

SEP 06 2011

Certified Mail No: 7011-0110-0000-3843-4762  
Return Receipt Requested

Mike Thomas  
Uranerz Energy Corporation  
P.O. Box 50850  
Casper, WY 82605

Subject: Completeness Review of Nichols Ranch Plan of Operations, July 2010 Revision

Dear Mike:

The BLM Buffalo Field Office (BFO) has received the July 2010 revision of the Nichols Ranch/Hank Unit Uranium In-Situ Recovery (ISR) Mine Plan of Operations (POO) and supporting documentation. We have conducted a completeness review in accordance with 43 CFR 3809.401. Identified below are the components of a complete POO and the BFO's determination for each. BLM specialists looked primarily at the Wyoming Department of Environmental Quality (WDEQ) Mine (Operations) Plan and may have missed items included in other portions of the project submittal. Therefore please indicate if the project components identified as incomplete are present and their location. Please address the identified deficiencies within 30 calendar days.

- 1) Operator Information:
  - i. Taxpayer identification number is missing.
  - ii. Serial numbers for unpatented mining claims are missing.
- 2) Description of Operations:
  - i. Maps of the project area:
    - a. Some map legends are incomplete, and not everything displayed on the maps is identified in the legends.
    - b. Please include surface and mineral ownership status.
    - c. Include locations for wellfield development such as header houses and other facilities, in-field oxygen storage tanks, staging areas, access roads within wellfields, pipelines, overhead power, fences, etc.
  - ii. Preliminary designs:
    - a. Some of facilities need further description. An example is well header houses; their dimensions, number of wells served by each, capacity flowing in and out, and how water moves from the header houses to the processing facility all need to be described.
    - b. Please list the total areal distribution of the ore bodies for each portion of the project (Nichols Ranch versus Hank Unit). The total area was given, but not broken down into the 2 portions.
    - c. Please describe how often, and how, uranium-loaded resin or slurried yellowcake will be trucked to the main processing facility at Nichols Ranch.
    - d. Any roads built on BLM surface must be constructed to comply with the "Buffalo Field Office Oil

& Gas Road Submittals for Applications to Permit to Drill" 2008. Available on the BFO website: [http://www.blm.gov/wy/st/en/field\\_offices/Buffalo.html](http://www.blm.gov/wy/st/en/field_offices/Buffalo.html).

- e. All drilling well pits must be fenced on at least three sides while drilling and four after the drill rig moves off for the duration of time that the pit is open.
  - f. Wells with no cement return to surface should be logged to determine if the cement is continuous.
  - g. Please address the conflict with oil and gas (particularly coal bed natural gas [CBNG]) development in the area.
- iii. Water management plans:
- a. Describe how water produced during pump tests will be handled.
  - b. Identify springs located within 1 mile of the project area and include a monitoring plan for them.
  - c. Please provide more detailed information regarding the deep injection disposal well, including its location, the depth and formation to be injected into, and what is to be injected.
- iv. Rock characterization and handling plans:
- a. The plan must include the analytical protocols and criteria that will be used to identify potential acidic or reactive conditions, and how these conditions will be treated, and reclaimed if necessary. BLM is concerned with CO<sub>2</sub> and its possible reactivity with rock and water.
  - b. BLM is also concerned about potentially harmful concentrations of other metals becoming liberated during the ISR process.
- v. Quality assurance and control plans:  
A quality assurance and control plan is necessary to ensure the environmental performance of mine facilities constructed on BLM lands.
- vi. Spill contingency plans:
- a. Spills are briefly discussed in section 3.13.4 (System Failures) and 3.19.2 (Maintenance, Spill Prevention and Spill Reporting). The spill contingency plan must describe how an operator will respond to a spill, including containment and clean-up procedures, enhanced monitoring measures, and notification procedures to the appropriate regulatory agencies.
  - b. The spill contingency plan must include notification of the BLM when a release or spill occurs on or may affect BLM-managed lands.
- vii. Schedule of Operations:
- a. The annual schedule for the production areas is included in section 3.5.3 (Proposed Time Schedule for Each Production Area) but does not provide sufficient detail in terms of operations. Knowing if the project is to operate 24-hours a day and seven days a week, as compared to only during daylight hours and a 5-day work week, or seasonally as compared to year-round, are critical to understanding the nature of the impacts.
  - b. The operations schedule should include these details for start through closure of the project.
  - c. Within the wildlife section, there is mention that the operations schedule could be modified to accommodate any wildlife concerns. Please describe when and how the schedule would be modified.
- viii. Support facility and infrastructure plans:
- a. Include descriptions of location of pipelines, power lines, and utility lines with respect to facilities, wellfields, and access routes. Details to be included are disturbance size and duration, construction procedures, operating capacity, and reclamation procedures. If the proposed project would result in upgrades, expansions, or increased maintenance requirements of existing support infrastructure operated by third parties, such impacts need to be described.
  - b. A Right-of-Way across BLM surface is not necessary, but may be pursued, for access associated with a Mine POO. An explanation of this should be included.
  - c. Please identify if a Storm Water Pollution Prevention Permit (SWPPP) has been secured from the WDEQ.
- 3) Reclamation Plan:
- i. Drill-hole plugging:
    - a. CBNG wells are cemented back to surface to plug. This requirement will also apply to ISR wells on BLM surface.
    - b. When wells are plugged and abandoned, they should be cut off 3 feet below surface leaving no surface expression.
  - ii. Regrading and reshaping:
    - a. Should include discussion of soil types and identify any special treatments required for

- reclamation.
- b. All reclamation must meet the criteria of the Wyoming State Reclamation Policy (IM WY2009-022).
- c. All improvements on BLM surface will be removed and reclaimed for abandonment.
- iii. Mine reclamation:
  - a. Please indicate the approved NRC licensed disposal facility and where it is located to which radioactive waste, including contaminated equipment and buildings, will be disposed.
  - b. Topsoil handling needs to be described.
  - c. Surface reclamation on BLM surface lands should include decompaction of soils. This has been addressed for roads and wellfields, but not buildings and other facilities.
  - d. How water (pits, runoff, accidental releases of ground and/or surface water, etc.) will be managed during wellfield restoration and plant decommissioning needs to be addressed.
  - e. Post-closure management needs to be addressed, including types of monitoring that will occur (such as on-the-ground, or analyzing monitor well water) and length of time for each, how to mitigate or reclaim if any untoward event occurs, and how and when (and if) monitor wells will be removed. Also, please describe WDEQ requirements for groundwater has been restoration.
- iv. Riparian mitigation:
  - a. No specific mention of riparian mitigation is evident within the reclamation plan. Please identify in the reclamation plan if no riparian areas are present.
  - b. If riparian areas exist, the reclamation plan must describe how the operator proposes to: 1) avoid impacts to riparian areas, and, 2) if impacts cannot be avoided, plans to reclaim or restore the riparian area. Mitigation plans must address the replacement of soil and reestablishment of riparian conditions and vegetation.
- v. Wildlife habitat rehabilitation:
 

No specific mention of wildlife habitat rehabilitation is evident within the reclamation plan. The reclamation plan needs to place special emphasis on wildlife habitat rehabilitation measures to rehabilitate or restore critical value, pre-mine wildlife habitat, such as winter range or calving areas.
- vi. Topsoil handling:
 

Topsoil will be re-spread versus stockpiled on BLM surface.
- vii. Revegetation:
  - a. Seed mix quoted in the reclamation plan is not acceptable for BLM surface, non-native species are usually not authorized, forbs and shrubs should be included. An acceptable seed mix can be supplied by BLM.
  - b. Operator needs to address weed control. On BLM surface, an approved Pesticide Use Plan will be necessary for any chemical treatments.
- viii. Isolation and control of toxic materials:
  - a. Reclamation plan must include plans for isolation and/or control of any acid-forming, toxic, or deleterious materials. This should include source control to prevent contaminant generation, migration control to prevent movement of contaminants, and capture and treatment of contaminants.
  - b. Reclamation plan must be integrated with rock characterization and handling plans used during mine operations.
  - c. Please describe if any waste or materials generated during mineral extraction and processing is Resource Conservation and Recovery Act (RCRA) exempt or not. Reclamation plan must include plans for isolation and control of non-exempt materials.
- ix. Removal or stabilization of buildings:
  - a. Please describe if any buildings, other facilities, roads, equipment, power lines, etc., built or erected during mine operations are planned to remain post-closure, and for how long and their planned uses.
  - b. Please describe if any third-party operated infrastructure built, upgraded, or expanded for mine operations will remain in its' improved state, and for how long and for what uses.
- x. Post-closure management:
  - a. Please describe any infrastructure or facilities that will remain after reclamation has been completed, and how and how long they will be maintained. This includes fencing, signs, water treatment systems, etc.
  - b. Post-closure activities need to be fully described, and the operator must be committed to

performing the required work over the necessary time period.

- 4) **Monitoring Plan:**
  - i. Include a table which identifies the locations and depths of all stock and domestic water wells within a 1 mile radius of the project area.
  - ii. Include a description of routine monitoring for the stock and domestic water wells within a 1 mile radius of the project area.
- 5) **Interim Management Plan:**

Many interim management plan items are included in the Mine POO, while others are not, particularly those related to temporary closures. It may be beneficial to put these into a single section entitled "Interim Management Plan," as recommended by 43 CFR 3809.401. An Interim Management Plan outlines procedures that will be followed during times of temporary non-operation, both planned and unplanned. An interim management plan should include the following:

  - i. Measures to stabilize excavations, workings, and well integrity.
  - ii. Measures to isolate or control toxic or deleterious materials.
  - iii. Provisions for the storage or removal of equipment, supplies, and structures.
  - iv. Measures to maintain the project area in a safe and clean condition.
  - v. Plans for monitoring site conditions.
  - vi. Notification of BLM during periods of non-operation.

In addition to the components identified above which are necessary for a complete Mine POO, additional operational and baseline environmental information would facilitate BLM's National Environmental Policy Act (NEPA) analysis. Please note that in addition to the information listed below, there may be other information needed as the NEPA analysis process is completed.

#### Wildlife:

- 1) Statements in section 3.15.2.10 (TEPCSSS) that there are no eagle nests or communal roosts occurring within the Nichols Ranch ISR Project wildlife survey area are incorrect. There is a communal roost site and multiple golden eagle nests near the Hank Unit. The BLM identified these resources to NRC for their SEIS. The presence of the roost site and nests may affect project design; for example, the BLM denied a CBNG well proposed in the NENE, Section 12, T43N, R76W, because of the well's proximity to the roost site.
- 2) The eagle example underscores the need for a re-evaluation of wildlife resources and potential impacts. Most information presented was from surveys conducted in 2007 or earlier.
- 3) Mitigation measures identified are qualitative and non-binding. There is no assurance that mitigation will take place, or what those actions will achieve. This is of concern for sage-grouse, other sagebrush obligates, raptors, swift fox, and burrowing owls.
- 4) The Mine POO states that only 60-80 acres will be disturbed at a time. The identified amount of wildlife habitat acreage lost is only the direct physical loss. A more accurate description would be to assess the effective habitat that will be removed, in other words the area wildlife is likely to avoid due to project infrastructure and activities.
- 5) Section 3.15.2.7 (Raptors) states "Potential conflicts between active nest sites and project-related activities will be mitigated by annual raptor monitoring and mitigation plans such avoiding areas, when possible, where raptor nest sites are located, and limiting the construction of overhead power..." Please clarify what are the "mitigation plans" and when they would be possible. What distance from an active nest is considered avoiding the area?
- 6) Section 3.15.2.2 (Upland game birds) states that "To minimize impacts ... project activities and vehicular traffic would be minimized in areas within 0.25 mi of an active lek ... and project activities (i.e., drilling and construction) would be reduced in areas adjacent to and active lek..." Please clarify "would be minimized" and "would be reduced".
- 7) The proposal commits to not construct overhead powerlines, permanent high-profiled structures such as storage tanks, and other perch sites within 0.25 mi of active sage-grouse leks (MP-76). The BFO RMP requires 0.50 mile avoidance. Please indicate where new over-head power lines will be constructed to support the proposed action.
- 8) The Mine POO (MP-77) states "Prairie dog towns would not be avoided during mining activities; however, steps will be taken to minimize disturbance in their habitat." Please identify these steps.
- 9) In section 3.15.2.8 (Migratory Birds), please address the potential for nest loss during construction, or

mitigation measures (i.e., not constructing in the breeding season) that will be used to avoid destroying nests. Some of those species that could lose nests, such as Brewer's sparrow and sage thrasher, are BLM sensitive species.

- 10) In section 3.15.2.10 (TEPCSSS), please address Ute-ladies' tresses potential in the project area and anticipated impacts.
- 11) Several wildlife inventories have occurred within the project area in support of the CBNG development. Contact BLM wildlife biologist Bill Ostheimer for additional information regarding these inventories (telephone 307-684-1117 or email [bostheimer@blm.gov](mailto:bostheimer@blm.gov)).

**Cultural:**

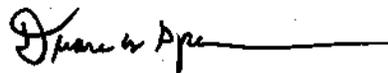
- 1) Although the Mine POO is technically complete with regards to cultural resources, a visual contrast rating has not been performed which would facilitate the NEPA analysis and designing sufficient mitigation.
- 2) More details on proposed mitigation and the Traditional Cultural Properties (TCPs) would also be beneficial for the NEPA analysis.

BLM may require other information, such as a reclamation cost estimate, to ensure that proposed operations comply with BLM regulations 43 CFR 3809. A reclamation cost estimate has been provided in the Mine POO. WDEQ establishes the initial bond amount on public lands (per 43 CFR 3809.500 and WS 35-11-417, and as stated in Supplement to MOU No. 19 Between the US DOI and the WDEQ LQD for Management of Surface Mining and Exploration for Locatable Minerals on Public Lands, signed 11/19/2003). In addition, bond coverage is re-evaluated with each annual report. BLM shall review the bond amount and respond to LQD with either concurrence or recommendations for modification. BLM has not reviewed the reclamation cost estimate or bond, as bond information has not been provided by the WDEQ LQD. After receiving the required bond information, BLM will review the bond and the reclamation cost estimate, and provide concurrence or recommendation for modification to LQD within 15 work days.

The BLM is responsible for ensuring the operator has the legal right to mine (valid mining claims), and shall promptly notify WDEQ LQD if there is not a valid right to mine (Supplement to MOU No. 19 Between the US DOI and the WDEQ for Management of Surface Mining and Exploration for Locatable Minerals on Public Lands, signed 11/19/2003). Within 15 work days after receiving the list of mining claims from Uranerz, BLM will verify the status of the mining claims listed.

For further information or clarification please contact Thomas Bills, Project Manager (telephone: 307- 684-1133, email [tbills@blm.gov](mailto:tbills@blm.gov)), or Kerry Aggen, Geologist (telephone: 307- 684-1196, email [kaggen@blm.gov](mailto:kaggen@blm.gov)).

Sincerely,



Duane W. Spencer  
Field Manager