

1.0 Chapter 1: Introduction

Power Resources, Incorporated (PRI) doing business as Cameco Resources has proposed to the Bureau of Land Management (BLM), Casper Field Office (CFO) to develop all or portions of three wellfields (also known as mine units) within the Reynolds Ranch (REY) in-situ recovery (ISR) project area located north of the existing Smith Ranch-Highland Uranium Project (SR-HUP).

These federal lands comprise 720 acres of the total project area and are located in sections 26 and 35, T. 37 N., R. 74 W., section 31, T. 37 N., R. 73 W., and section 6, T. 36 N., R. 73 W., 6th P.M., Converse County, Wyoming (figure 1-1). The project is located along Ross Road approximately 30 miles northwest of Douglas and northeast of Glenrock. The project affects approximately 45.6 acres of federal lands.

The project area encompasses approximately 8,280 acres, of which approximately 4,320 acres are split estate (private surface overlaying federal minerals), 720 acres are BLM surface and minerals, 2,600 acres are fee lands and minerals, and 640 acres are state lands (figure 2-2 in chapter 2). Approximately 8.8% of the surface estate in the project area is managed by the BLM, 83.5% privately owned, and 7.7% state, while the mineral estate is 61.2% federal, 31% private, and 7.7% state. The numbers provided above vary slightly from those provided in the plan of operations (POO) and scoping notice (BLM 2008e) due to errors in ownership designations in the previous mapping and the difference realized when calculating areas using AutoCAD versus aliquot description.

The Cameco Resources/Power Resources Incorporated, Reynolds Ranch In-situ Uranium Recovery Project, an Addition to the Smith Ranch-Highland Uranium Project (SR-HUP), Located in Converse County, Wyoming, case file WYW-168915, has been given environmental assessment (EA) number DOI-BLM-WY-060-EA10-111.

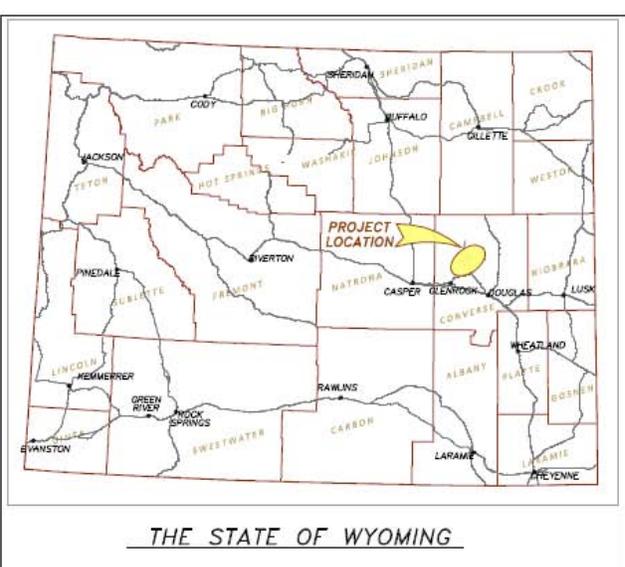
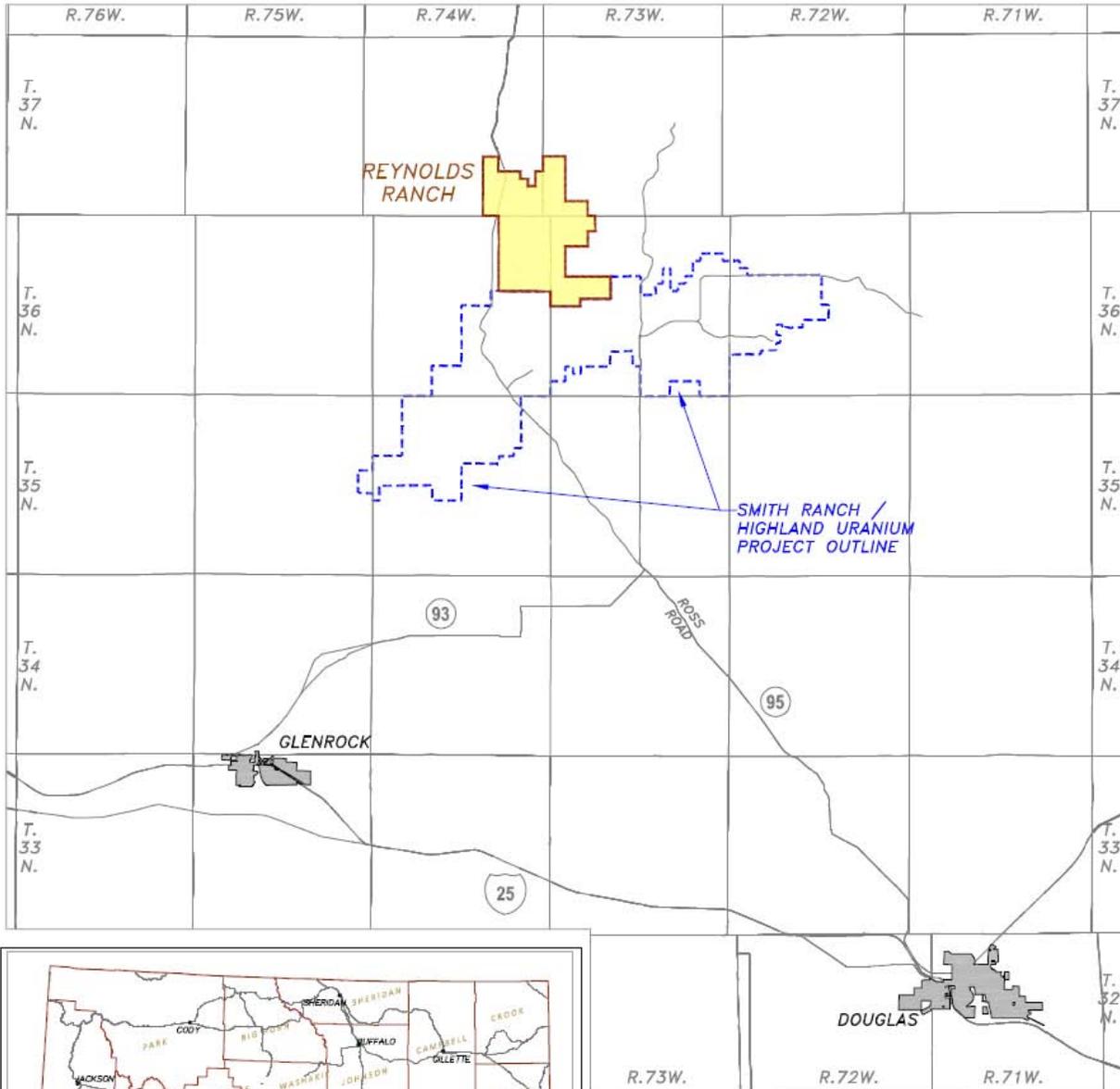
1.1 BACKGROUND

This EA has been prepared to analyze the effect of developing three wellfields, or portions of wellfields on federal surface by Cameco Resources within the Reynolds Ranch in-situ recovery project area. The Reynolds Ranch project area is located north of the existing Smith Ranch-Highland Uranium Project. PRI has demonstrated written surface owner consent on split estate lands within the REY project area; therefore, BLM will exercise authority only over the ISR development on federal lands.

1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

Expanding nuclear power is a key component of the Energy Policy Act (EPACT 2005) signed into law on August 8, 2005. The policy calls for federal agencies —to develop a national energy policy designed to help the private sector, and, as necessary and appropriate, State and local governments, promote dependable, affordable, and environmentally sound production and distribution of energy for the future.” In addition to providing this direction, the EPACT 2005 provides significant incentives for the continuation and expansion of nuclear power in the United

Figure 1-1: Project Location



POWER RESOURCES, INC. dba
 CAMECO RESOURCES
 REYNOLDS RANCH MINE OPERATION PLAN
 LOCATION MAP
 T.36,37N., R.73,74W.
 CONVERSE COUNTY, WYOMING

States. On February 16, 2010, President Obama supported the expanded use of nuclear energy in the United States with the following, “To meet our growing energy needs and prevent the worst consequences of climate change, we need to increase our supply of nuclear power and today’s announcement helps to move us down that path.” This was said in reference to the Department of Energy’s (DOE) offering of conditional commitments for a total of \$8.33 billion in loan guarantees for the construction and operation of two new nuclear reactors at a plant in Burke, Georgia (DOE 2010). The announcement was followed by these statements of support by Energy Secretary Steven Chu, "As the world moves to address climate change, nuclear energy will play an indispensable role," and “This is a significant step by the Obama Administration to restart our domestic nuclear industry, helping to create valuable long-term jobs and reduce our greenhouse gas emissions” (DOE 2010).

Exploration and development of locatable federal minerals by private industry is part of the BLM’s minerals program under the authority of 43 CFR 3800, Mining Claims Under the General Mining Laws, the Mining and Minerals Policy Act of 1970, the Federal Land Policy and Management Act of 1976 (FLPMA), and the National Materials and Minerals Policy, Research, and Development Act of 1980.

Decision to be made: The BLM will decide whether or not to approve the proposed development of federal minerals (uranium) within the project referred to as the Reynolds Ranch in-situ uranium project, and if so, under what terms and conditions.

1.3 RELATIONSHIP TO STATUTES, REGULATIONS, PLANS OR OTHER ENVIRONMENTAL ANALYSES

1.3.1 Conformance with Applicable Land Use Plans

The proposed action is in conformance with the *Record of Decision and Approved Casper Resource Management Plan* (BLM 2007). The signed record of decision (ROD) for the Casper resource management plan (RMP) provides overall direction for management of all resources on BLM-administered public lands in the Casper Field Office planning area. The RMP was prepared under the authority of the FLPMA and other applicable laws and regulations and includes broad land use plan decisions that provide overall direction for management of resources and resource uses within the CFO planning area. In that land use plan, decisions are expressed as goals and objectives (desired outcomes), allowable uses, and management actions anticipated to achieve desired outcomes (BLM 2007). The land use planning decisions for federal lands within the Reynolds Ranch project area are contained in the Casper RMP. The environmental analysis that supports the decisions made in the Casper RMP is documented in the proposed RMP/final environmental impact statement (EIS; June 2007).

Resource values applicable to the proposal are described in chapter 3, the “Affected Environment” of this EA. The other land use plan decisions applicable to the area are described in the Casper RMP.

This EA is a site-specific analysis of the potential impacts that could result from implementation of the Proposed Action or alternatives thereto. The EA assists the BLM in project planning,

ensuring compliance with the National Environmental Policy Act of 1969 (NEPA), and in making a determination as to whether any “significant” impacts could result from the analyzed actions. “Significance” is defined by NEPA and is found in 40 CFR 1508.27. This EA will assist the authorized officer (AO) in making a determination to either issue a Finding of No Significant Impact (FONSI) or begin the preparation of an EIS. The FONSI briefly presents the reasons why implementation of the Proposed Action would not result in significant environmental impacts (effects) beyond those already addressed in the Casper RMP and ROD (BLM 2007). If the AO determines that this project has significant impacts following the analysis in this EA an EIS would be prepared for the project. Otherwise, a record of decision will be signed for the EA approving the selected alternative.

The Casper RMP states the following over-arching criteria in the development of management direction for the BLM planning area:

1. The revised RMP will recognize valid existing rights.
2. The environmental analysis will consider a reasonable range of alternatives that focus on the relative values of resources and respond to the issues. Management prescriptions will reflect the principles of multiple use and sustained yield.; and
3. Planning decision will include the preservation, conservation, and enhancement of cultural, historical, paleontological, and natural components of public land resources, while considering energy development and other surface-disturbing activities.

The goals and objectives for the mineral resources program in the CFO area, as stated in the 2007 RMP, include the following:

Goal MR: 3 Support the domestic need for energy resources.

Goal MR: 4 Manage mining claim location, prospecting, and mining operations in a manner that will not cause unnecessary or undue degradation of public lands.

To implement these goals and objectives, the RMP states —“BM-administered mineral estate, except areas identified as necessary for the protection of specific resource values or uses, will be open for prospecting for and development of locatable minerals.” The RMP also provides the following caveat regarding the jurisdiction of the BLM relative to split estate lands, at (3.2.1) —“The BLM manages the Mining Law program on federal mineral estate, including Stock Raising Homestead lands when the claimant does not receive written consent from the surface owner. Such management includes authorizing and permitting mineral exploration, mining, and reclamation actions.” At 4.2.1 of the RMP, it further states that, —“If a mineral claimant’s operation is located on land patented under the Stock Raising Homestead Act and no written surface owner consent exists, then a POO [plan of operations] must be submitted for BLM approval. When the surface owner’s consent has been obtained, the claimant does not need to submit an NOI [Notice of Intent] or obtain POO approval.” PRI has demonstrated written surface owner consent on split-estate lands within the project area; therefore, BLM can exercise

authority only over the ISR development on federal lands. The project is estimated to affect approximately 45.6 acres of these jurisdictional lands.

1.3.2 Relationship to Other Plans or Environmental Analyses

BLM's NEPA review of the project area is not meant to duplicate the Nuclear Regulatory Commission's (NRC) NEPA review and EA performed as part of its licensing process, which evaluated potential impacts associated with construction, operation, aquifer restoration, and decommissioning of the project. Rather, the NRC EA will be incorporated by reference in this EA. Incorporation by reference provides the opportunity to reduce paperwork and redundant analysis in the NEPA process and allows BLM to briefly summarize the relevant portions of the NRC EA rather than repeat them. This EA will focus on those issues and mitigation measures not analyzed in sufficient detail in the NRC EA in support of BLM's NEPA requirements and regulatory authorities. Additional analysis documents relevant to this project, and incorporated by reference, include:

- BLM case file WYW 119890 for Rio Algom Mining Corporation Smith Ranch Facility (1992);
- BLM case file WYW 124668 for PRI Highland Mine (April 1992);
- NRC 1992 SUA-1548 issued to Rio Algom Mining Corporation;
- NRC 2001 Renewal of SUA-1548 (NRC Renewal of Source Material License SUA-1548, Rio Algom Mining Corporation, Rio Algom Smith Ranch in Situ leach Project, Converse County, Wyoming (May 2001);
- NRC 2003 Smith Ranch-Highland combined license under amendment 5 of SUA-1548;
- NRC 2006 EA for the Addition of the Reynolds Ranch Mining Area to Power Resources, Inc's Smith Ranch – Highland Uranium Project, Converse County, Wyoming Source Material License No. SUA-1548 Docket No. 40-8964; and,
- NRC May 2009 Generic In-situ Uranium EIS.

The Environmental Assessment for Renewal of Source Material License No. SUA-1548 (Rio Algom Mining Corporation Smith Ranch Uranium Project Converse County, Wyoming, April 2001 Docket No. 40-8964, December 2004 and March 2006), contains the controlling plan of operations for the SR-HUP; wherein the U.S. Nuclear Regulatory Commission specifically states, "Departures from this EA or the Technical Evaluation Report will require NRC review and authorization of license amendment and a new NRC environmental review." The 2006 NRC EA for the Reynolds Ranch project is publically available. On December 2, 2009, the NRC and BLM announced they had entered into a memorandum of understanding (MOU) that "outlines how the agencies will coordinate on environmental analyses related to development of uranium resources on public lands." This MOU will eliminate duplicative NEPA analysis and conflicting jurisdiction in the future.

There is also an MOU between the BLM and the State of Wyoming recognizing the authorities and responsibilities of both agencies when permitting mining operations on BLM-administered lands. The intent of the MOU is to avoid unnecessary permitting duplication while providing protection for human health and the environment. The Wyoming Department of Land Quality

(WDEQ) permit to mine 633 is also incorporated by reference into this EA (Rio Algom Mining Corp. Smith Ranch Facility WDEQ permit to mine permit #633).

In accordance with 43 CFR1610.5, the information provided above demonstrates that this Proposed Action is within the intent, scope, and meaning of the Casper RMP.

1.3.3 Supplemental Authorities - Statutes and Regulations

The NEPA is only one of many authorities that contain procedural requirements that pertain to treatment of elements of the environment when the BLM is considering a federal action. Table 1-1) provides an overview of the federal, state, county, and local laws applicable to uranium development and the key regulatory requirements that would govern project implementation. Additional approvals, permits, and authorizing actions may be necessary.

The development of this project would not affect the achievement of the Wyoming Standards for Healthy Rangelands (August 1997). The Proposed Action is in conformance with the *State of Wyoming Land Use Plan* (Wyoming State Land Use Commission 1979) and the applicable Converse County regulations (Converse County Board of Commissioners [CCBC] 2008) and complies with all other relevant federal, state, and local laws.

1.3.4 NEPA Compliance

The proposed project has been analyzed in accordance with the requirements of the NEPA, as amended. To comply with NEPA and the Council on Environmental Quality (CEQ) regulations, which implement NEPA, and the regulations at 43 CFR 3809, the BLM is required to prepare an EA for the proposed action. This environmental assessment serves several purposes.

- It provides the public and government agencies with information about the potential environmental consequences of the project and alternatives;
- It identifies all practicable means to avoid or minimize environmental harm from the project and alternatives; and,
- It provides the responsible official with information with which to make an informed decision regarding the project.

This EA is not a decision document. It documents the process used to analyze the potential impacts of the proposed action and alternative actions and discloses the effects of the proposed action and alternatives to that action. An ROD, signed by the BLM AO, will document the final decision regarding the selected alternative. The BLM will document whether or not significant impacts would occur with implementation of any of the alternatives. If the BLM determines that no significant impacts will occur, a finding of no significant impact/decision record will be issued. If significant impacts are identified, the BLM may require that an environmental impact statement be prepared for the proposed action.

Table 1-1

Major Federal, State, and Local Permits, Approvals, and Authorizing Actions Applicable to Uranium Development in Converse County, Wyoming

Agency	Permit, Approval, or Action	Authority
US Fish and Wildlife Service	Coordination, consultation and impact review federally listed threatened and endangered species	Fish and Wildlife Coordination Act (16 USC 661-666c); section 7 of the Endangered Species Act of 1973, as amended (16 USC 1536); Bald Eagle Protection Act (16 USC 668-668dd)
	Migratory bird impact coordination	Migratory Bird Treaty Act (16 USC 704). E.O. 131186, "Responsibilities of Federal Agencies to Protect Migratory Birds" January 10, 2001
US Environmental Protection Agency	Spill Prevention Control and Countermeasures Plans	Oil Pollution Prevention, as amended (40 CFR 112)
	Regulate hazardous waste treatment, storage, and/or disposal	Resource Conservation and Recovery Act of 1976, as amended (42 USC 6901 et seq.). Comprehensive Environmental Response Compensation, and Liability Act of 1980, as amended (43 USC 9615)
	Regulate and protect drinking water supplies; provides criteria for exempted aquifers	Safe Drinking Water Act, as amended (43 USC 300f et seq.), 40 CFR 146.4; Clean Water Act of 1977 (33 USC 1251 et seq.)
	Environmental justice	E.O. 12898, "Environmental Justice" February 11, 1994
US Army Corps of Engineers US Fish and Wildlife Service	Provide protection to wetlands	E.O. 11990, "Protection of Wetlands" May 24, 1977
US Nuclear Regulatory Commission	Source material licenses for the possession and use of source material and byproduct material	Requirements under Title 10 CFR Parts 20 and 40, and the guidance in NUREG-1569, "Standard Review Plan for In Situ Leach Uranium Extraction License Applications," and Title 10, Part 51
US Department of Interior, Bureau of Land Management	Right-of-way grants for access roads on BLM-administered land	Federal Land Policy and Management Act (43 USC 1761-1771); Right-of-Way, Principles and Procedures, as amended (43 CFR 2800)
	Antiquities and cultural resource permits on BLM-administered land	Antiquities Act of 1906, as amended (16 USC 431-433); Archaeological Resources Protection Act of 1979, as amended (16 USC 470aa-47011); Preservation of American Antiquities, as amended (43 CFR 3). National Historic Preservation Act, as amended (16 USC 470)

**Table 1-1
(cont.)**

Agency	Permit, Approval, or Action	Authority
	Native American Religious Concerns	American Indian Religious Freedom Act of 1978 (42 USC 1996)
Converse County	Small wastewater systems (septic)	Director of Special Projects
	Noxious weed control	County Code
Wyoming Department of Environmental Quality, Water Quality Division	Permits to construct settling ponds and waste water systems, including groundwater injection and disposal wells	Wyoming Environmental Quality Act, Article 3, Water Quality, as amended (Wyoming Statute [WS] 35-11-301 through 35-11-311)
	NPDES permits for discharging waste water and storm water runoff	WDEQ-WQD Rules and Regulations, Chapter 18; Wyoming Environmental Quality Act, Article 3, Water Quality, as amended (WS 35-11-301 through 35-11-311); Section 405 of the Federal Water Pollution Control Act (Clean Water Act) (codified at 33 USC 1345); EPA administered (40 CFR 122); State Program Requirements (40 CFR 123); EPA Water Program Procedures for Decision-making, as amended (40 CFR. 124)
	Administrative approval for discharge of hydrostatic test water	Wyoming Environmental Quality Act, Article 3, Water Quality, as amended (WS 35-11-301 through 35-11-311)
Wyoming Department of Environmental Quality, Air Quality Division	Permits to construct and permits to operate	Clean Air Act, as amended (42 USC 7401 et seq.); Wyoming Environmental Quality Act, Article 2, Air Quality, as amended (WS 35-11-201 through 35-11-212)
Wyoming Department of Environmental Quality, Land Quality Division	Mine permits, impoundments, and drill hole plugging on state lands	Wyoming Environmental Quality Act, Article 4, Land Quality, as amended (WS 35-11-401 through 35-11-437)
Wyoming Department of Environmental Quality, Solid Waste Division	Construction fill permits and industrial waste facility permits for solid waste and disposal during construction and operations	Wyoming Environmental Quality Act, Article 5, Solid Waste Management, as amended (WS 35-11-501 through 35-11-520)
Wyoming Department of Transportation	Permits for oversize, over length, and overweight loads;	Chapters 17 and 20 of the Wyoming Highway Department Rules and Regulations
	Access permits to state highways	Chapter 13 of the Wyoming Highway Department Rules and Regulations

The following authorities are used to process and evaluate uranium mining applications: the NEPA and the Environmental Quality Improvement Act of 1970. These acts provide BLM with the authority to manage and administer public lands. Additional guidance and regulations are set forth in the 40 CFR 1500 (Protection of Environment), 43 CFR 1601 (Planning, Programming and Budgeting), and 43 CFR 3809 (Surface Management). Other relevant guidance includes BLM Manual Section 1601, Land Use Planning (Nov. 2000) and BLM NEPA Handbook (H 1790-1).

A third party contractor under the direction of the BLM, CFO, prepared this EA.

1.4 SCOPING, PUBLIC INVOLVEMENT, AND ISSUES

Development of the Reynolds Ranch area would result in the exploitation of the federal mineral estate and the disturbance of public lands administered by the BLM. Under 43 CFR 3809, mining operations that perform more than “casual use” activities on more than five acres of public lands must submit a POO to BLM for review and approval. PRI initially submitted a POO to BLM on January 14, 2008. The BLM CFO determined at that time that the POO was deficient per the requirements of 43 CFR 3809.401-421. Concurrently, BLM CFO determined that an EA would be required to facilitate their review of the proposed project, specifically the resources outside the purview of the NRC. BLM assigned the Reynolds Ranch project case number WYW-168915. PRI submitted a corrected POO and addendum to the CFO staff on June 25, 2009 and March 26, 2010, respectively; this document is available, upon request from the BLM.

In accordance with NEPA and CEQ regulations (40 CFR 1501.7), an early and open process for determining the scope of issues to be addressed and for identifying the issues related to a proposal is required. In compliance with this procedural requirement, the BLM CFO released a scoping notice on June 30, 2008 for a 30-day review period (BLM 2008e). The BLM received seven comment letters. The internal BLM review process and public scoping led to the identification of the following land and resource management issues and concerns potentially associated with the Proposed Action:

- Bozeman Trail
- Impacts to cultural resources, Native American religious concerns
- Paleontological resources
- Impacts on wetlands and riparian areas
- Impacts to ephemeral and intermittent drainages from erosion from disturbed sites
- Potential impacts to surface water from discharges on water quality and fisheries, etc.
- Management of excess wastewater generated to maintain the pressure gradient in the aquifer (evaporation ponds, deep well injection or both).
- Control of invasive, non-native species (weeds)
- Protection of special status wildlife and plant species including endangered, threatened, candidate, proposed, and BLM sensitive species
- Potential for depletion of North Platte River water
- Potential effects on small and big game species, raptors, and migratory birds

- The potential effects on the public health from the release of radon and other radioactive isotopes into the atmosphere.
- Impacts to air quality
- Contribution to global climate change
- Potential conflict with other mineral resource extraction activities (CNBG) and other uranium mining projects
- Potential impacts to hunting areas and other recreation
- Impacts to visual resources, open space, and vistas
- Impacts on grazing lessees and private land owners including traditional rural lifestyles
- Impacts to socioeconomic values
- Transportation planning
- Application and acquisition of appropriate permits
- Reclamation
- Cumulative effects